36” REAR DISCHARGE HYDRO MIDSIZE

933303

16HP KAW ES EU

36” SIDE DISCHARGE HYDRO MIDSIZE

933304

16HP KAW ES EU

PARTS MANUAL

MAN 4163232
Rev. A 12-2007

CGC
Commercial Grounds Care, Inc.

OPERATOR’S MANUAL 4163232

CALIFORNIA
Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Californie Proposition 65
Avertissement

Les échappements des moteurs diesel et certains de leurs composés sont reconnus par l'Etat de Californie pour être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.

⚠ AVERTISSEMENT

L'émission du moteur de ce matériel contient des produits chimiques que l'Etat de Californie considère être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.

California Advertencia
de la Proposicion 65

El estado de California hace saber que los gases de escape de los motores diesel y algunos de sus componentes producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.

⚠ ADVERTENCIA

El estado de California hace saber que los gases de escape de este producto contienen productos quÍmicos que producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.

CALIFORNIA
Proposition 65 Warning

Battery posts, terminals, wiring insulation, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. **WASH HANDS AFTER HANDLING.**

EC Hydro Midsize

IMPORTANT MESSAGE

Thank you for purchasing this CGC, Inc. product. You have purchased a world class mowing product, one of the best designed and built anywhere.

This machine comes with an Operation and Safety Manual and a separate Setup, Parts and Maintenance Manual. The useful life and good service you receive from this machine depends to a large extent on how well you read and understand these manuals. Treat your machine properly, lubricate and adjust it as instructed, and it will give you many years of reliable service.

Your safe use of this CGC, Inc. product is one of our prime design objectives. Many safety features are built in, but we also rely on your good sense and care to achieve accident-free operation. For best protection, study the manuals thoroughly. Learn the proper operation of all controls. Observe all safety precautions. Follow all instructions and warnings completely. Do not remove or defeat any safety features. Make sure those who operate this machine are as well informed and careful in its use as you are.

See a CGC, Inc. dealer for any service or parts needed. CGC, Inc. service ensures that you continue to receive the best results possible from CGC, Inc. products. You can trust CGC, Inc. replacement parts because they are manufactured with the same high precision and quality as the original parts.

CGC, Inc. designs and builds its equipment to serve many years in a safe and productive manner. For longest life, use this machine only as directed in the manuals, keep it in good repair and follow safety warnings and instructions. You'll always be glad you did.

Commercial Grounds Care, Inc.
One Bob Cat Lane
Johnson Creek, WI 53038-0469

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NOTICE !!!

Unauthorized modifications may present **extreme** safety hazards to operators and bystanders and could also result in product damage.

Commercial Grounds Care, Inc. strongly warns against, rejects and disclaims any modifications, add-on accessories or product alterations that are not designed, developed, tested and approved by Commercial Grounds Care, Inc. Engineering Department. Any Commercial Grounds Care, Inc. product that is altered, modified or changed in any manner not specifically authorized after original manufacture–including the addition of "after-market" accessories or component parts not specifically approved by Commercial Grounds Care, Inc.–will result in the Commercial Grounds Care, Inc. Warranty being voided.

Any and all liability for personal injury and/or property damage caused by any unauthorized modifications, add-on accessories or products not approved by Commercial Grounds Care, Inc. will be considered the responsibility of the individual(s) or company designing and/or making such changes. Commercial Grounds Care, Inc. will vigorously pursue full indemnification and costs from any party responsible for such unauthorized post-manufacture modifications and/or accessories should personal injury and/or property damage result.



This symbol means:
ATTENTION!
BECOME ALERT!

Your safety and the safety of others is involved.

Signal word definitions:

The signal words below are used to identify levels of hazard seriousness. These words appear in this manual and on the safety labels attached to Commercial Grounds Care, Inc. machines. For your safety and the safety of others, read and follow the information given with these signal words and/or the symbol shown above.

⚠DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

⚠WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

⚠CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices or property damage.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage.



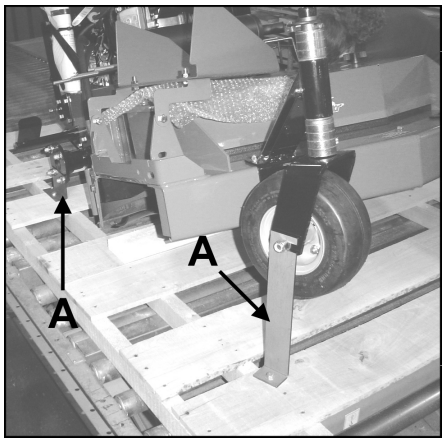
MODEL NUMBER: This number appears on sales literature, technical manuals and price lists.

SERIAL NUMBER: This number appears only on your mower. It contains the model number followed consecutively by the serial number. Use this number when ordering parts or seeking warranty information.

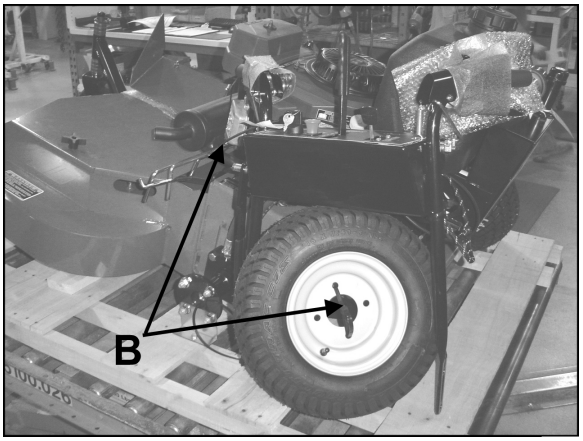
GENERAL NOTE: **FRONT, REAR, RIGHT HAND AND LEFT HAND REFERENCES BELOW ARE WITH RESPECT TO AN OPERATOR AT THE CONTROLS.**

1. UNCRATE - Place both power unit and cutterdeck crates on a level surface. Remove sides and top from both the power unit and cutterdeck crates.

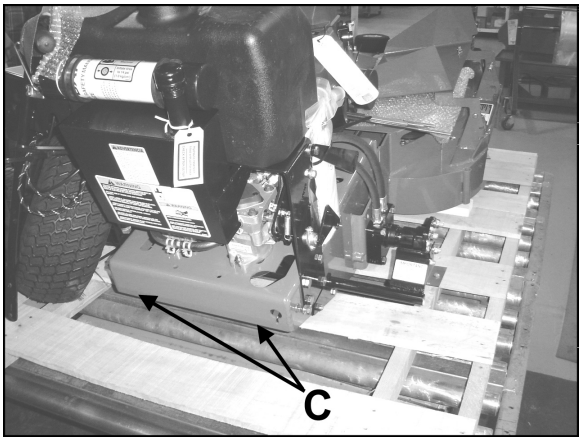
2. Remove shipping brackets **A**, at all (4) locations.



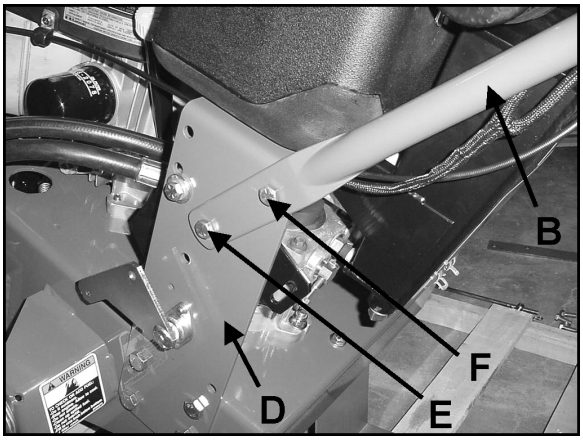
3. Remove wire ties **B** securing tires, upper handle and rods. Set aside for later use.



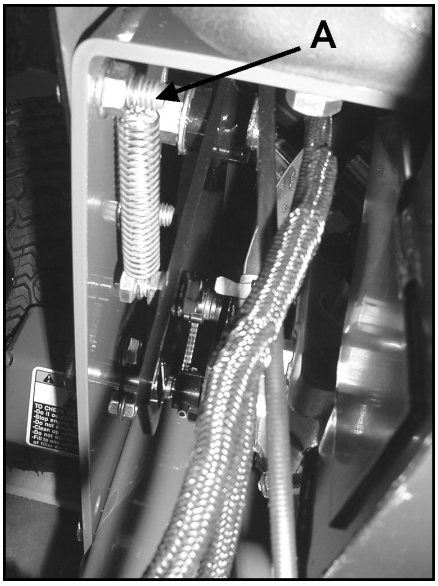
4. Raise the rear of the machine at location **C** and support with jackstands.



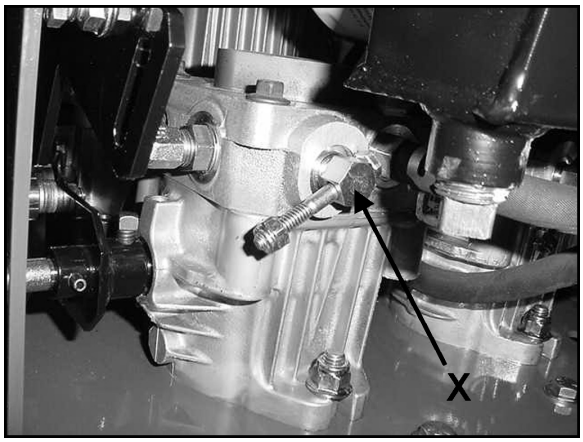
5. Bolt upper handle **B** to lower handle **D** with (2) 3/8-16 X 1" bolts and nuts at location **E** using fasteners supplied in parts bag and (2) 3/8-16 X 1-1/2" bolts and nuts at location **F**.



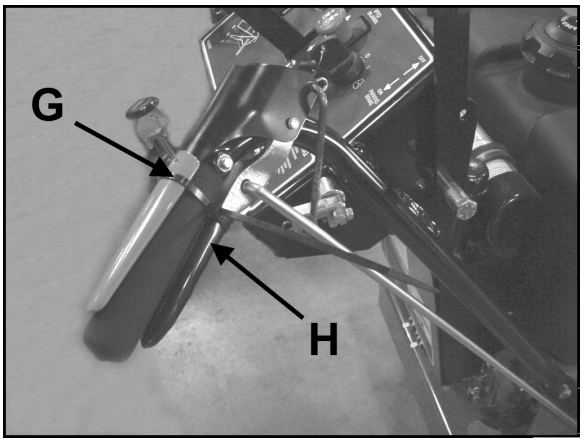
6. Remove spring from bolt **A**. Repeat for other side.



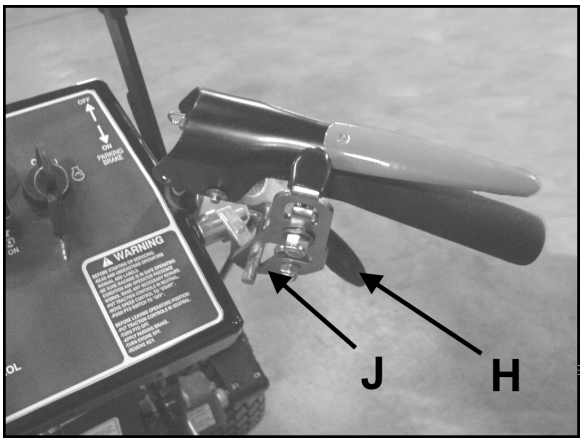
7. Open the bypass valves **X** on each pump by rotating handle counter-clockwise two turns.



8. Cut and remove tie wrap **G** from the traction control lever **H**.

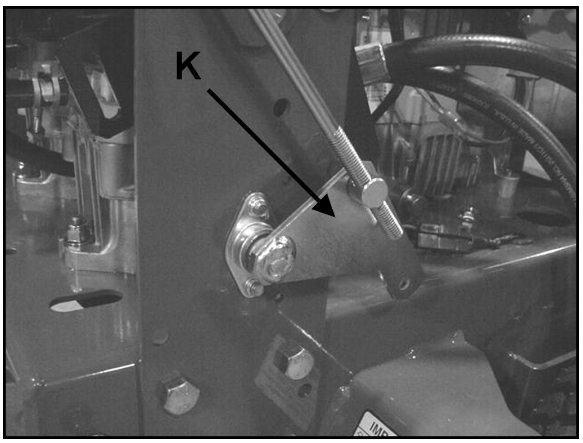


9. Locate the two longest rods removed in Step 2. Install the two traction control rods through the traction control lever **H**, flatwasher and traction lock **J** and secure with hairpins. Repeat on other side of upper handle.

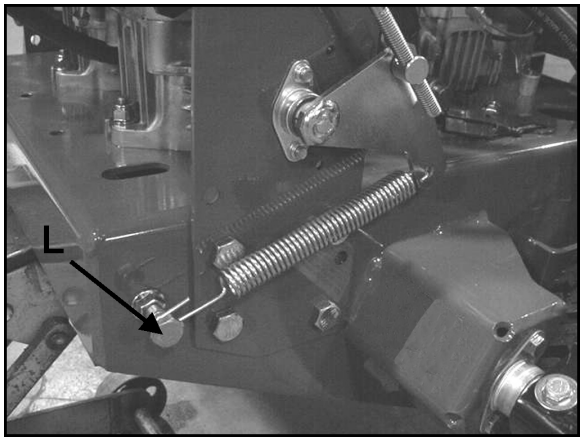


10. With the traction locks **J** in the neutral position, apply tension to the traction control rod to remove any slack and align swivel on traction control rod with the hole in pump arm **K**. Repeat for other side.

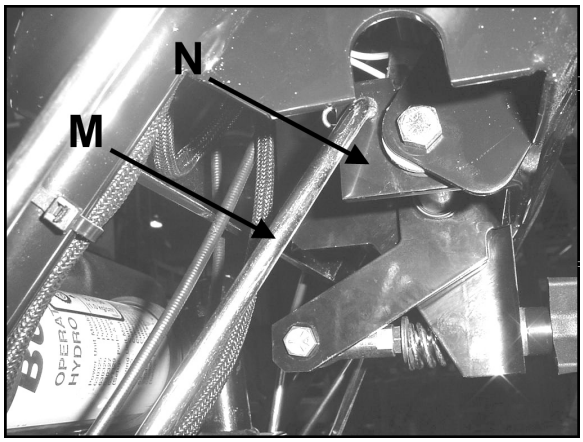
    NOTE: The pump arm has some rotational play. Adjust the swivel on the traction control rod to the center of this play and secure to the pump arm with a flatwasher and hairpin as shown.



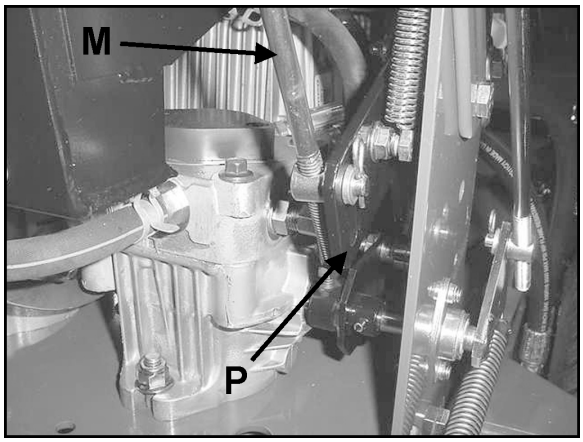
11. Attach spring to pump arm and then to bolt **L**. Repeat for other side.



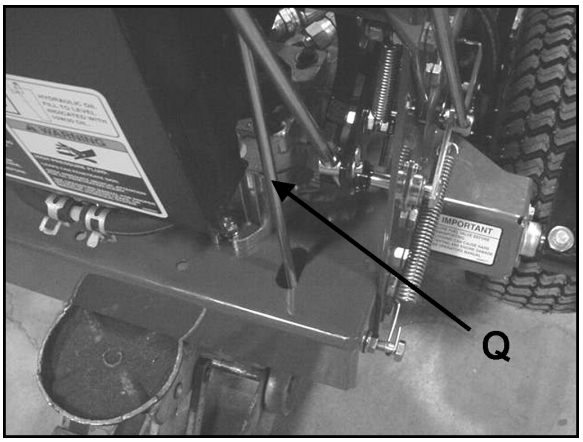
12. Connect speed control rod **M** to the speed control lever **N** and secure with hairpin. Repeat for other side.

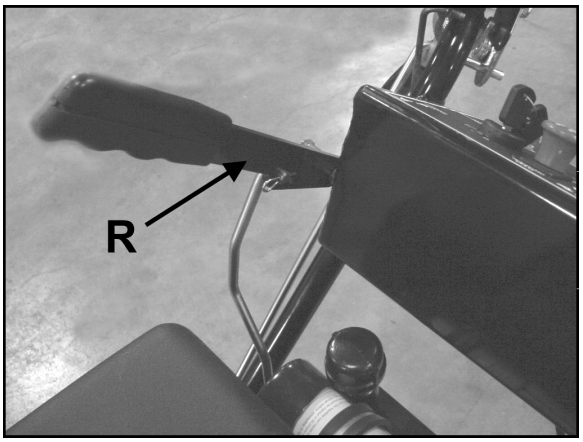


13. Set the speed control levers to neutral and adjust the swivel on the lower end of the speed control rod **M** so they engage the very top of the slot on the neutral plates **P** and secure with flatwasher and hairpin as shown. Repeat for other side.

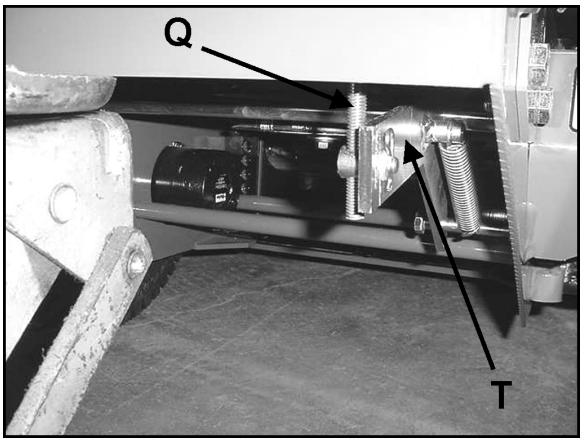


14. Insert threaded end of brake rod **Q** through the slot on the engine deck and attach the other end to the brake control arm **R** and secure in place with hairpin as shown.

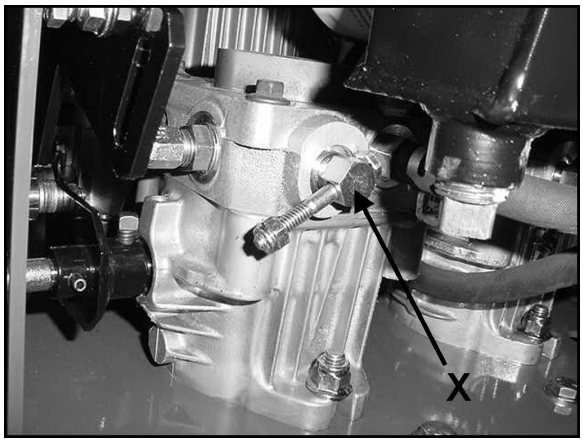




15. Connect swivel on threaded end of brake rod **Q** to the brake arm **T** and secure in place with flatwasher and hairpin as shown. Adjust swivel to provide adequate braking when the brake control arm **R** is engaged. See adjustment section of this manual.



19. Close bypass valve **X** by rotating clockwise until firmly seated.



20. Remove the battery cover and the battery from the machine. Fill the battery to the bottom of the vent wells with electrolyte and trickle charge for several hours. Replace the battery in the machine and make the connections, red to positive first, then black (ground) to negative. Install battery cover and secure with previously removed nuts.



Batteries Produce Explosive Gases
- Keep sparks and flame away.
- Disconnect negative terminal first.
- Reconnect negative terminal last.



21. Attach cutterdeck per the instructions on the following pages then return to Step 22 of this section.

22. Fill engine with oil. (See engine manual for specifications.)

23. Fill fuel tank with clean, fresh unleaded fuel.

⚠WARNING GASOLINE IS HIGHLY FLAMMABLE!

- Fill fuel tank with good quality, clean, regular unleaded gasoline.
- Do not use hi-test fuel.
- Do not smoke.
- Do not spill fuel.
- Fill outdoors.
- Do not overfill. Fill to 25 mm below bottom of filler neck to allow room for expansion.
- USE A FUNNEL TO FILL GAS TANK.

24. Check oil level in hydraulic oil reservoir and adjust as necessary.

25. Adjust tire pressure in drive wheels and casters to 1 kg/cm^2.

26. Before attempting to start the mower, read and understand all sections of the Operation & Safety manual.

NOTICE: Special setup instructions.

- Before engaging the cutterdeck, run the engine for five minutes at full RPM. This is recommended for new engine installation to permit complete engine lubrication prior to load.

- Do not engage the cutterdeck at full throttle. Set the throttle half way between the highest and lowest engine speed, engage the PTO switch and increase the engine speed to full before cutting.

- **⚠WARNING**

  Do not use this machine without an approved grasscatcher, grass discharge chute or mulching plate(s) correctly fitted.

FIXED CUTTERDECK ATTACHMENT

1. Remove the cutterdeck from the crate.

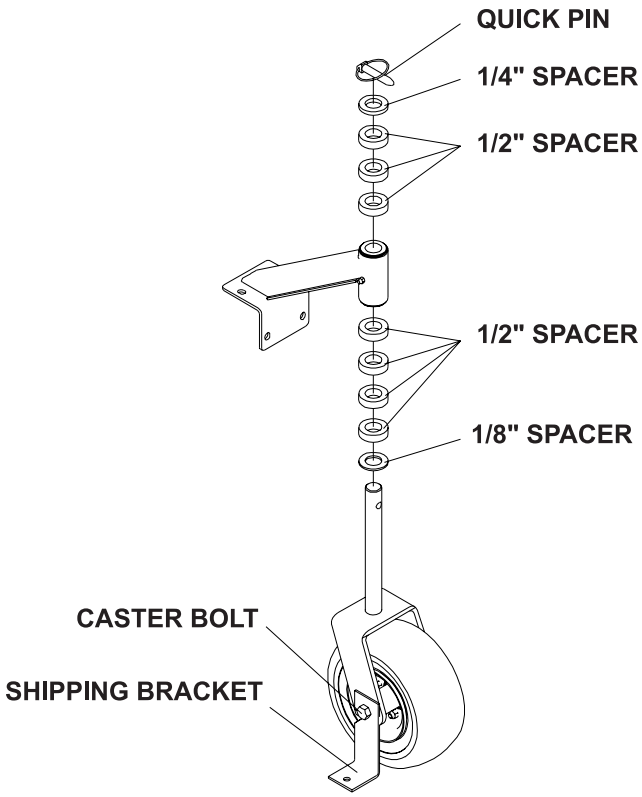
2. Unbolt the caster wheels and the shipping brackets from the crate.

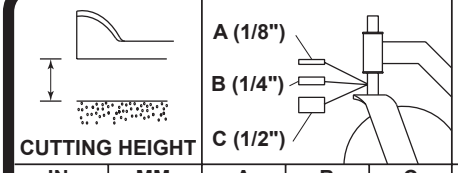
3. Remove the shipping bracket from the caster wheel by loosening the caster bolt and sliding the shipping bracket off and retighten caster bolt.

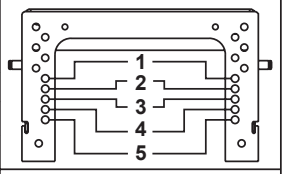
4. Remove quick pin and remove the appropriate number of spacers for the desired height of cut. See height of cut chart below.

   NOTE: Height of cut chart is also located on bottom of belt cover or in the Operation & Safety Manual.

5. Repeat for other caster wheel assembly.







4109861

CUTTING HEIGHT					DECK PIN POSITION	NUMBER OF SPACERS BETWEEN SPINDLE AND BLADE (1/4" THICK)
IN	MM	A	B	C		
1.375	35	1	1	0	5	2
1.625	41	1	1	0	5	1
1.875	48	1	1	0	5	0
2.125	54	1	0	2	4	2
2.375	60	1	0	2	4	1
2.625	67	1	0	2	4	0
2.875	73	1	1	3	3	2
3.125	79	1	1	3	3	1
3.375	86	1	1	3	3	0
3.625	92	1	0	5	2	2
3.875	98	1	0	5	2	1
4.125	105	1	0	5	2	0
4.375	111	1	1	6	1	2
4.625	118	1	1	6	1	1

6. Remove belt cover and set aside.

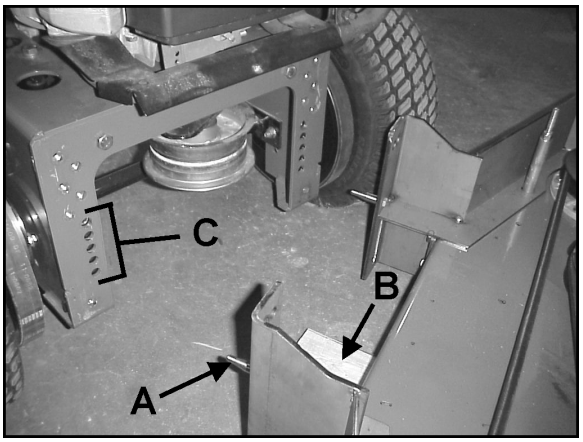
7. Block the rear of the cutterdeck with the appropriate height block for the desired height of cut **B**. See Support Block Chart below.

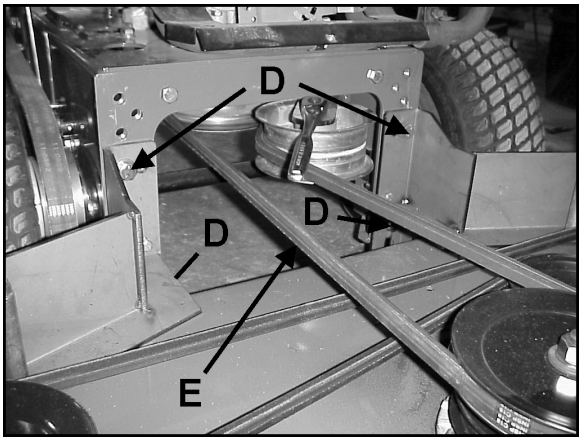
CUTTING HEIGHT	HOLE POSITION ON ENGINE DECK*	BLOCK HEIGHT AT REAR OF DECK (B)
1.375" - 1.625"	5	1.25"
1.875" - 2.375"	4	2.00"
2.625" - 3.125"	3	2.75"
3.375" - 3.875"	2	3.50"
4.125" - 4.625"	1	4.25“
* Position 1 is the highest hole on the engine deck.		

8. Position the power unit behind the cutterdeck.

9. Move the power unit towards the cutterdeck until the guide pins **A** engage the appropriate hole **C** on the power unit for the desired height of cut. Fasten with (4) 1/2-13 X 1-1/4 bolts at **D**.

10. Loop the PTO belt **E** around the electric clutch pulley. Using a 3/8" ratchet wrench or 3/8" breaker bar rotate the PTO belt idler while looping the PTO belt around the cutterdeck pulley.

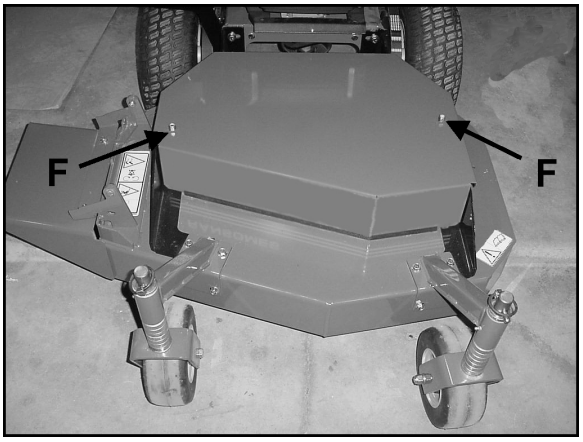




11. Reinstall belt cover and fasten in place with nuts **F** previously removed.

12. Remove support block from the rear of cutterdeck.

13. Remove support from the rear of the power unit.

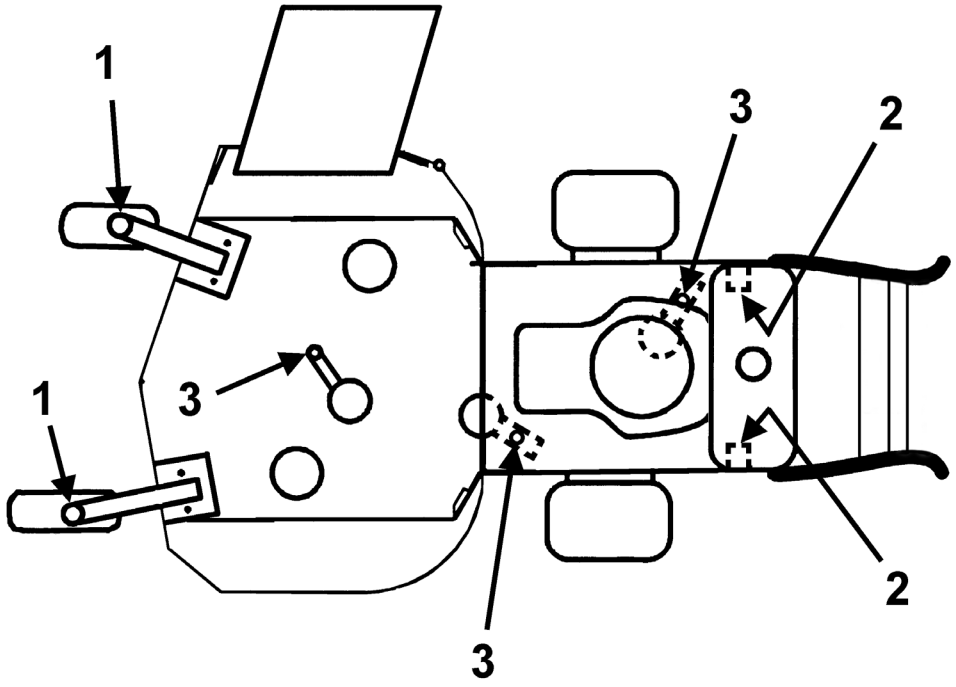


MACHINE LUBRICATION

Every 50 Working Hours - Lubricate the following points with grease:

1) Caster wheel pivots (2 points)
2) Neutral eccentric pin (2 points)
3) Idler pivot bearings:
   a) Engine to cutterdeck belt tensioner
   b) Cutterdeck belt tensioner
   c) Hydro drive belt tensioner

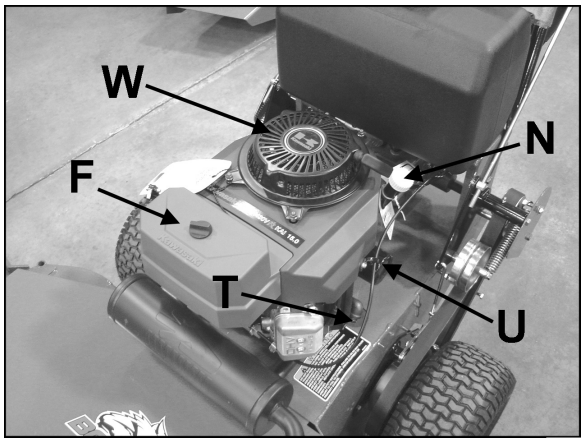
NOTE: The spindles used on these machines use a superior sealed bearing which does not require relubrication.



ENGINE - KAWASAKI KAI

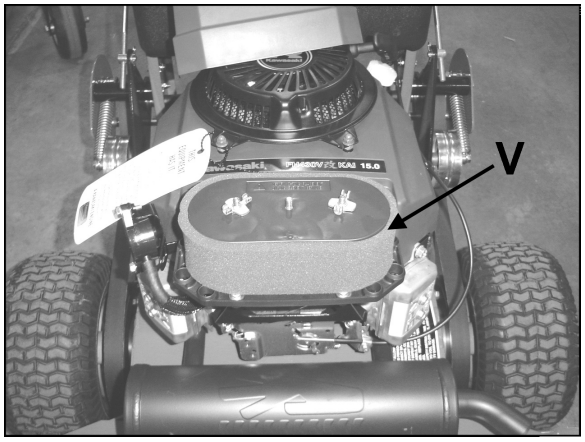
The maintenance schedule detailed is for average operating conditions. Under extreme conditions (dusty, dirty or more than 8 hrs continuous use) maintain more frequently.

Oil (daily)
Remove the dipstick **N** and check that the oil level reaches the full mark. If necessary, top off with fresh oil. To obtain the correct oil level, the machine must be level. See engine manufacturer's manual for proper oil viscosity and grade. DO NOT OVER FILL!



AFTER THE FIRST 5 WORKING HOURS
While the engine is warm, remove the drain plug **T** and drain the crankcase. Replace oil filter **U**. Clean and replace the plug. Fill the crankcase through the filler hole with fresh oil to the full mark. See engine manufacturers manuals for oil and filter change intervals.

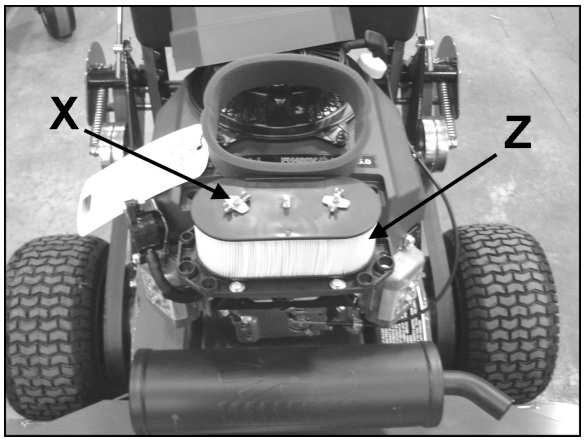
Cooling Fins and **Air Intake screen (daily)**
Ensure that the cooling fins and air intake screen **W** are cleaned daily. Continued operation with a clogged cooling system will cause severe overheating and result in engine damage.



Air Cleaner
Dual element air cleaners have a paper air cleaner element **Z** with an oiled, foam precleaner element **V** on the dirty side of the paper element. Both should be inspected regularly and maintained.

Clean and re-oil precleaner element every 25 hours (more often under dusty conditions).

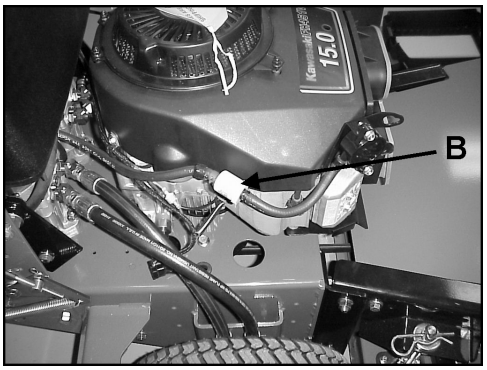
1. Disassemble air cleaner cover **F**.
2. Remove precleaner **V** by sliding it off the paper cartridge **Z**.
3. Wash precleaner in kerosene or liquid detergent and water.
4. Wrap precleaner in cloth and squeeze to remove cleaner.
5. Saturate precleaner in engine oil. Squeeze to remove excess oil.
6. Re-install precleaner over paper cartridge. Reassemble air cleaner components and screw assembly **X** down tight.



Every 100 hours (more often under very dusty or dirty conditions), check the paper cartridge.

– Clean by tapping gently.
– Do not wash the cartridge or use compressed air
– Replace when cartridge is dirty, bent or damaged.

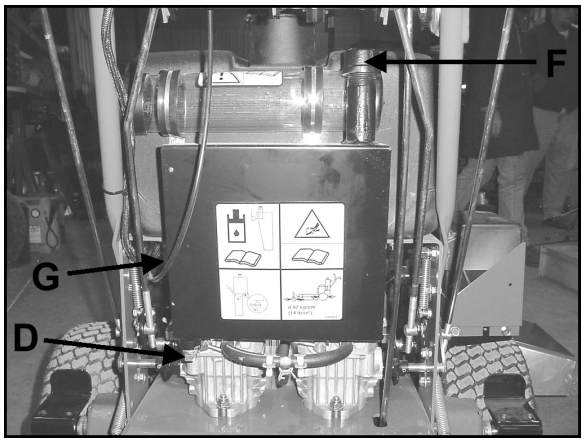
In-Line Fuel Filter
When required, the fuel filter **B** may be replaced. See the Setup, Parts & Maintenance manual for service part numbers.



HYDRAULIC RESERVOIR CHECK, DRAIN AND FILL

Check level every 100 hours or when a leak has occurred. To check level: Remove reservoir cap. Add 10W30 oil until the oil level reaches the bottom of the filler tube. Do not overfill.

EVERY 500 HOURS:
Change hydraulic oil and filter. Remove plug **D** to drain reservoir. Remove and replace filter. Filter is located on front of tank at **G**. Reinstall plug and fill with 10W30 oil to the bottom of the filler tube **F**.

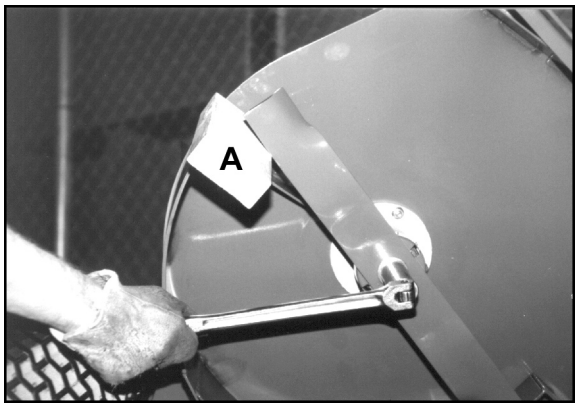


Blade Sharpening

Blades may be sharpened by filing or grinding, but with either method the balance of the blades must be maintained at 0.004 Nm or less. Failure to maintain balance causes excess vibration, wear and shortened life of not only the blades, but most all components of the machine. To balance a blade after sharpening: attach 3.9 g of weight 127mm from center on the light end. This should make the light end the heavy end. If it does not: File or grind the heavy end until the addition of weight makes the light end the heavy end.

NOTE:

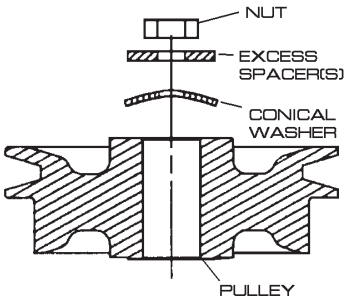
- Do not overheat or weaken the blades.
- Do not straighten bent blades. Replace with new CGC, Inc. blades.
  If lift portion of blade is worn thin replace with a new CGC, Inc. blade.
- ALWAYS replace with CGC, Inc. blades—do not use another manufacturer's blades as this could be dangerous.
- Replace cracked or bent blades.



BLADE REMOVAL

1. Use a box wrench or socket with a long breaker bar to remove spindle bolt under cutterdeck.
2. Slip tube over breaker bar or wrench if necessary to gain leverage.
3. Keep hands clear as blades may rotate when bolt releases.
4. When changing blades, wear thickly padded gloves.
5. Block blades from turning by using a piece of wood.
6. Follow these instructions to prevent injury when bolt releases.

NOTE: To prevent blade from turning, place block of wood at **A**, with grain perpendicular to blade.



Cutterdeck Pulley Assembly

BLADE RE-INSTALLATION

1. Place the desired number of spacers (no more than 2) on the spindle bolt below the cutterdeck between the blade and spindle shaft.
2. Insert the cutter spindle bolt (from bottom) complete with washer, blade and spacers.
3. Place remaining spacer(s) on the spindle bolt above the cutterdeck between the conical washer and nut (as shown). Replace nut and tighten to 95 Nm.

SPARK PLUG

- Remove plug and check condition.
- Good operating conditions are indicated if the plug has a light grey or tan deposit. A white blistered coating may indicate overheating. A black coating usually means an "over rich" fuel mixture caused by a clogged air cleaner or improper carburetor adjustment. Do not sandblast, wire brush or otherwise try to clean a dirty plug. Best results are obtained with a new plug.
- See engine manufacturers manual for proper spark plug gap.

NOTE: CHANGE ENGINE OIL AND FILTER AFTER FIRST 5 HOURS OF OPERATION.

SERVICE OPERATION	FIRST 5 HOURS	DAILY	EVERY 25 HOURS	EVERY 50 HOURS	EVERY 100 HOURS	EVERY 500 HOURS
ENGINE						
Check Oil Level		X				
Check for Oil & Air Leaks		X				
Clean Air Intake		X				
Clean Air Cleaner		X				
Change Oil & Filter*	X	SEE ENGINE MANUFACTURER'S MANUAL*				
Clean Fuel Sediment Bowl				X		
Replace/Adjust Spark Plug	SEE ENGINE MANUFACTURER'S MANUAL					
HYDRAULIC OIL RESEVOIR						
Check Oil Level					X	
MACHINE						
Check Tire Pressures		X				
Check Belt Tensions	CHECK AFTER FIRST 1/2 HR AND AFTER FIRST 4 HRS			X		
Lubricate All Points				X		

Consult the manufacturer's manual for your engine for further information and instructions.

NOTES

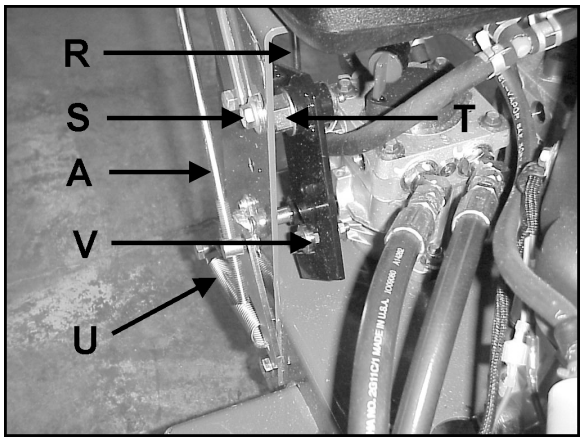
GENERAL	DATE	HRS	DATE	HRS	DATE	HRS	DATE	HRS	DATE	HRS	DATE	HRS
Check tire pressures												
Lubricate all points												
Check nuts & bolts												
ENGINE												
Check oil level												
Change oil												
Clean air cleaner element												
Clean cooling fins												
Replace air cleaner element												
Clean & gap spark plugs												
NOTE: After first 5 hours of operation replace engine oil and filters.												

NOTE: Make all adjustments with the engine shut off, spark plug wire disconnected and mower drive disengaged.

TRACTION DRIVE HYDROSTAT ADJUSTMENTS: The following adjustments must be done in order.

STEP 1 - Set Neutral

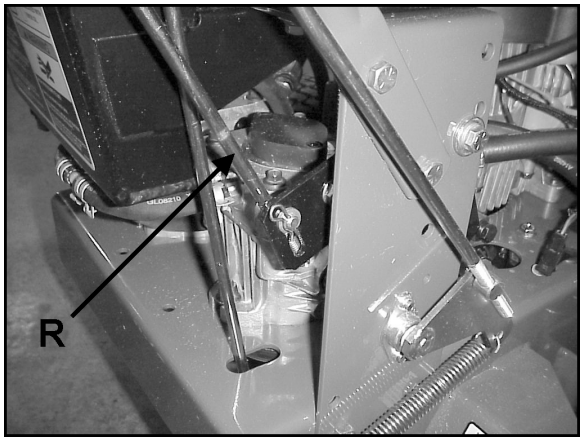
Neutral is set at the factory. If it should require adjustment, raise the wheels off the ground by setting the machine on jackstands or blocks. Disconnect the traction control rod **A** and speed control rod **R** at each pump end. Disconnect pump arm spring **U** from bolt on engine deck. Loosen bolt **S** securing the neutral plate eccentric shaft just enough to turn the shaft. Start the engine and run at low speed. Turn eccentric shaft **T** to raise or lower the point at which the follower bearing is held in the center of the "**V**" until the wheels stop turning. Tighten the eccentric shaft bolt. Increase the throttle setting and check the adjustment. Readjust if necessary. Shut the engine off before proceeding to steps 2 and 3.



STEP 2 - Adjust Speed Control Rods

First adjust neutral, as outlined in Step 1. Set speed control levers to neutral. Adjust swivels on lower ends of speed control rods **R** so they just go into the slots on the neutral plates.

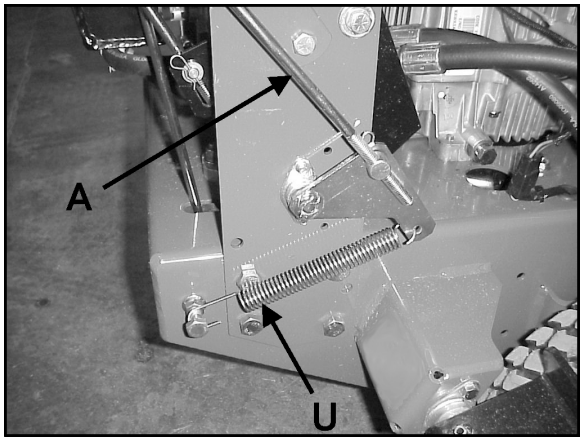
NOTE: If the speed control levers do not have adequate tracking adjustment, the swivel on one of the rods needs to be turned 1 turn.



STEP 3 - Adjust Traction Levers

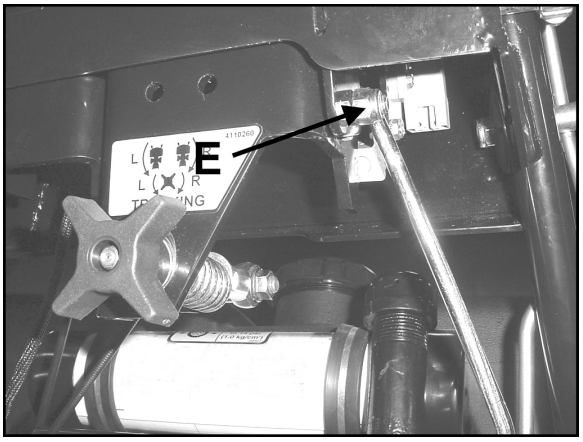
Set neutral and adjust speed control rods as outlined in Steps 1 and 2. Set traction locks in the neutral position. Grasp traction rod **A** and pull down on it to take out any slack. The pump control arm has some back and forth play. Adjust the swivel to the center of the control arm play. Connect the swivel to the control arm. Reattach pump arm spring **U** to bolt on engine deck.

NOTE: More reverse speed may be gained by adjusting the swivel to the rear of the control arm play. A minimum of 1/16" play is required so the traction controls can be put in neutral without the machine backing up.



SPEED CONTROL LEVER FRICTION

The speed control lever is held where set by friction pads. If the setting will not hold, tighten nut **E** to increase friction on the speed control lever.



PARKING BRAKE - Apply parking brakes and open the bypass valves on the hydraulic pumps. Try to push the machine forward. If wheels rotate, adjust brakes as follows.

TO ADJUST:

1. Remove the hairpin cotter **A** from the brake rod at the brake lever as shown.

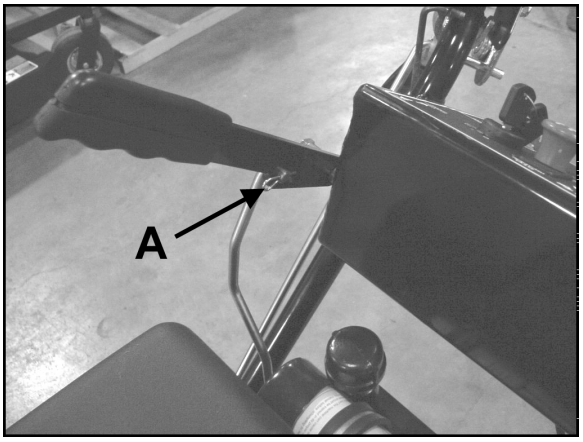
2. Slide the brake rod out of the brake lever and turn the rod in or out of the brake swivel **B** as needed.

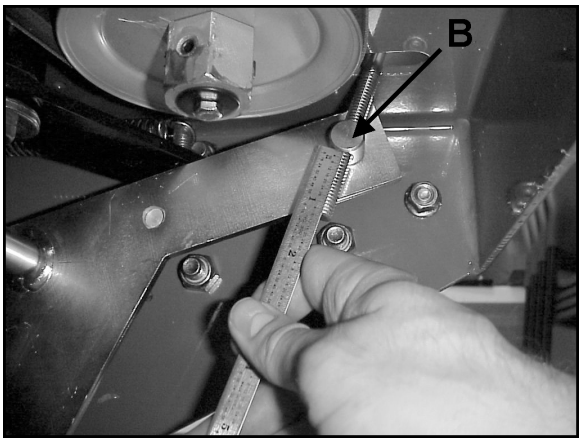
   NOTE: The brake should initially be adjusted so that the brake rod extends through swivel **B** 32mm as shown. If more brake pressure is required adjust as necessary.

3. Reassemble brake rod to the brake lever using hairpin **A**.

4. Apply parking brakes and try to push the machine forward. If wheels rotate, readjust brakes.

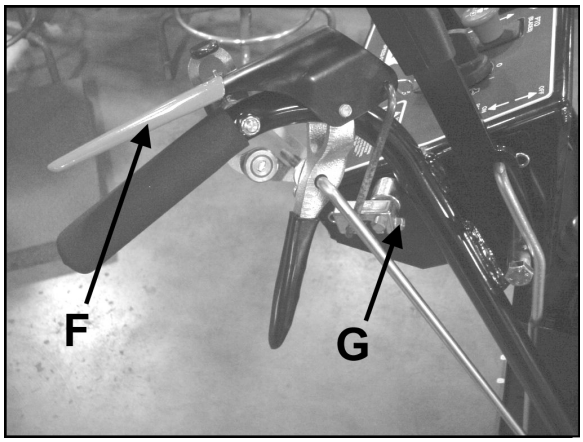
5. Close bypass valves on the hydraulic pumps.





OPERATOR PRESENT CONTROLS

The operator present (OP) controls should be adjusted to control the operation of the plunger of the operator present switch (located under the right side of the control panel). Depressing OP levers **F** should depress the plunger; releasing the levers should extend it.



TO ADJUST:

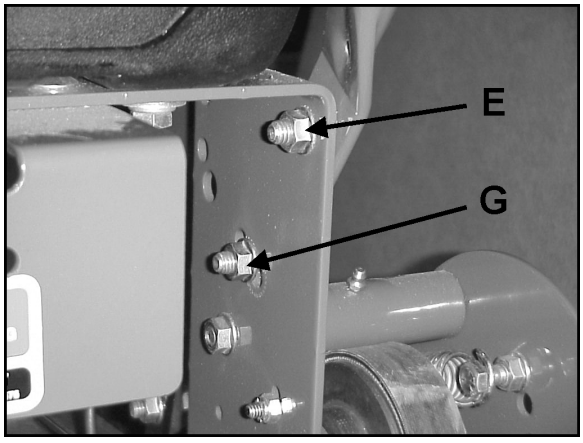
1. Loosen clamp bolts **G** on both ends, so clamps can rotate on shaft.

2. Rotate actuator lever to depress switch plunger. Keep OP levers against handles and tighten bolts **G**.

3. When released, the OP levers should rise and the actuator lever should rotate away from the switch, allowing the switch plunger to extend completely.

HANDLE BAR HEIGHT ADJUSTMENT

To adjust handle bar height: Remove bolts **G** and loosen bolts **E** on each side of handlebars. Raise or lower as required. Reposition upper handle and reinsert bolts **G** into appropriate hole in lower handle and tighten. Readjust traction control rods, parking brakes and speed control rods.



TRACKING WIDTH ADJUSTMENT

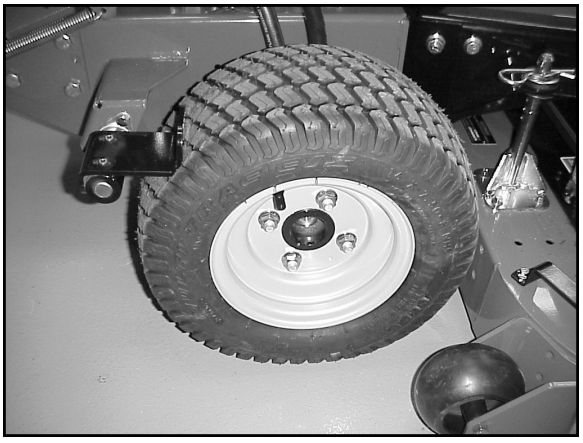
The tracking width originally set from the factory can be increased an additional 83 mm overall by performing the following steps.

1. Loosen wheel lug nuts on both drive tires.
2. Raise rear of unit so that drive tires are off the ground. Support the unit with jack stands.
3. Remove wheel lug nuts and wheels. Reattach wheels with the tires rotated so the wheel offset is the opposite of when they were previously installed. Reinstall and tighten lug nuts until they are snug.
4. Lower machine off of the jack stands and torque wheel lug nuts to 115 Nm.



TIRE PRESSURE ADJUSTMENT

Tire pressures should be maintained at 1.0 kg/cm^2.



PTO BELT

1. Rotate idler arm using a 3/8" ratchet or breaker bar and remove belt.



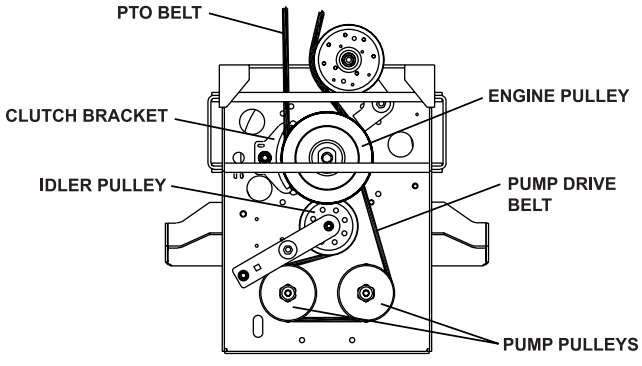
CUTTERDECK BELT

1. Remove PTO belt.
2. Rotate idler arm using a 3/8" ratchet or breaker bar and remove belt.
3. Replace in the reverse order.



PUMP-DRIVE BELT

1. Remove PTO belt from the engine clutch.
2. Disconnect the clutch wire harness.
3. Unbolt clutch bracket from clutch and rotate the clutch to allow enough clearance to remove the clutch bracket.
4. Rotate idler arm using a 3/8" ratchet or breaker bar inserted into the square hole in the idler arm.
5. Remove pump drive belt.
6. Replace by following steps in reverse order.



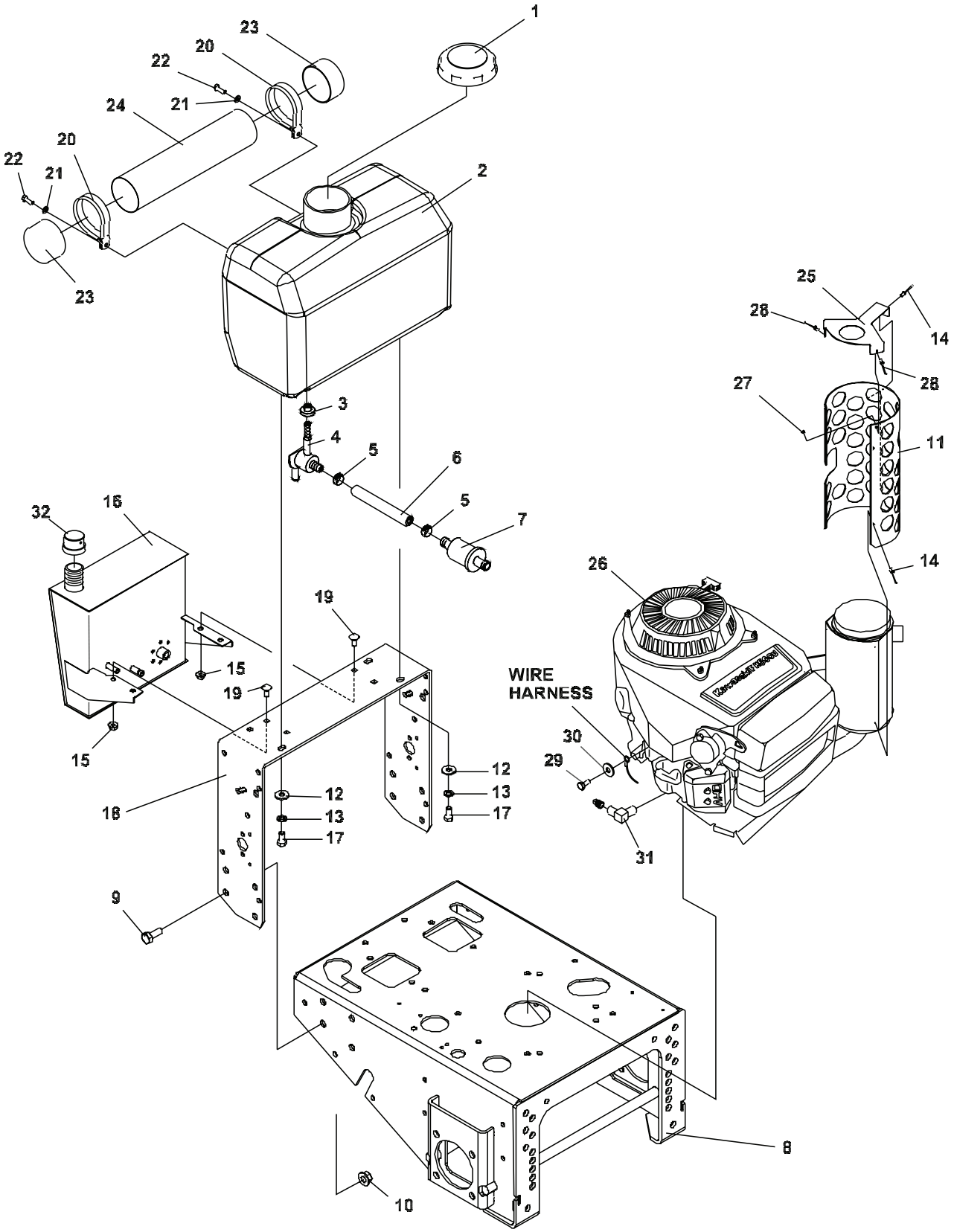
View under engine deck

PARTS SECTION

UPPER ENGINE DECK ASSY

FIGURE 1

EC Hydro Midsize



UPPER ENGINE DECK ASSY

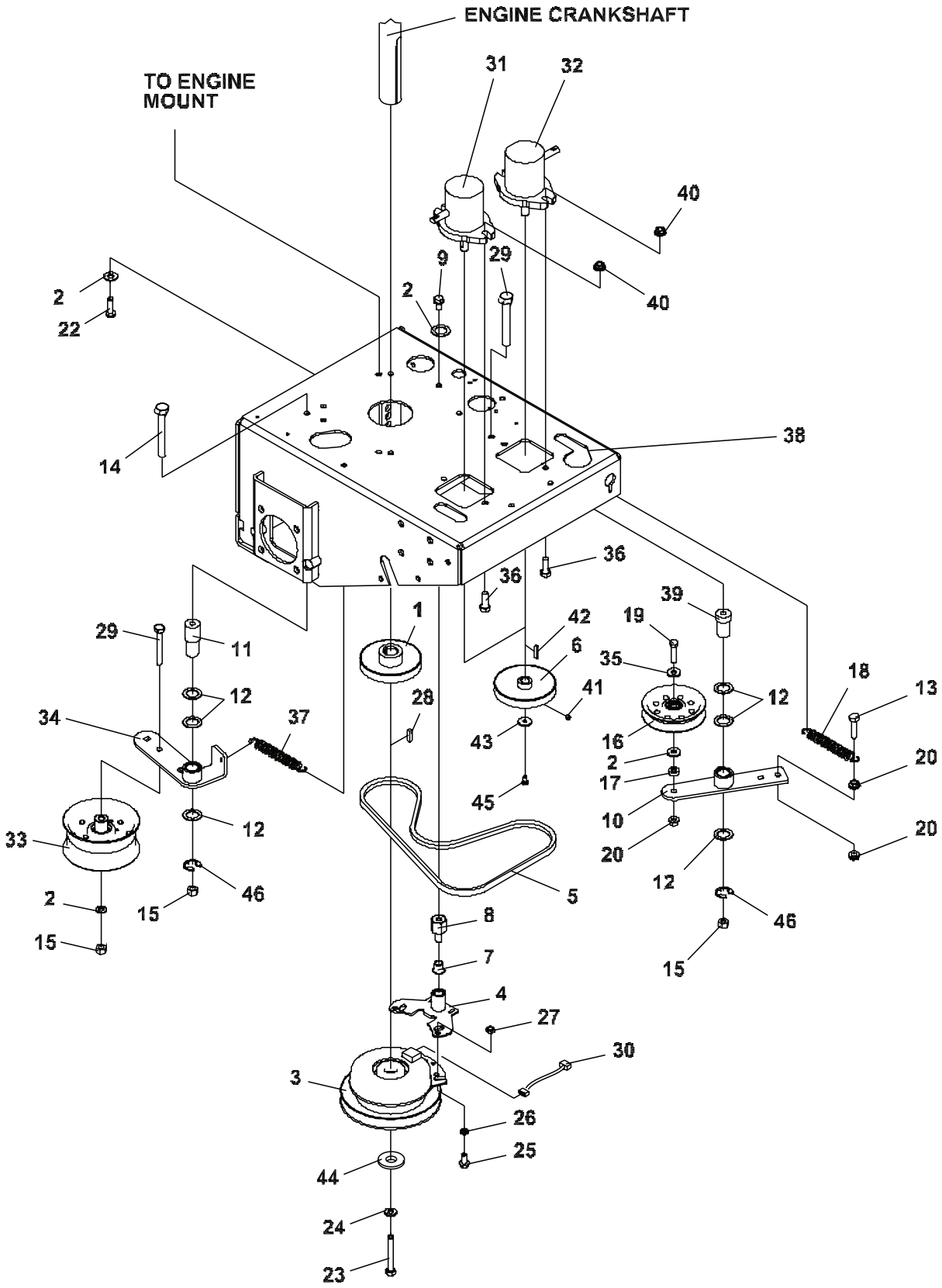
FIGURE 1

ITEM	PART NO.	DESCRIPTION	QTY
1-1	4130320	CAP-FUEL GASOLINE 3.5	1
1-2	4128633	TANK-FUEL	1
	(INCLUDES ITEMS 3 & 4)		
1-3	4132325	GROMMET-FUEL TANK	1
1-4	38540	S FUEL SHUT-OFF VALV	1
1-5	88042N	HOSE CLAMP	2
1-6	4162977-006	HOSE,.25IDX.50ODX17"	1
1-7	38666	FILTER, FUEL	1
1-8	4131068.2	WLDMT-ENGINE DECK	1
1-9	64123-39	BOLT-HEX 1/2-13X1-1/4	8
1-10	64229-05	LOCKNUT, 1/2-13 NYLON	8
1-11	4116244	GUARD-MUFFLER	1
1-12	64163-31	WASHER	4
1-13	64006-03	LOCKWSHR-HELICAL 3/8	4
1-14	64215-04	RIVET-POP IFI# 42	5
1-15	64229-02	LOCKNUT-NYLON 5/16-18	4
1-16	2306138	S-EC HYD RSVR W/LABS	1
1-17	64123-15	BLT-HEX 3/8-16X3/4	4
1-18	2722269.2	HANDLE-LOWER HYD	1
1-19	64018-9	BLT-CRG 5/16-18 X 3/4	4
1-20	38542	CLAMP-DOCU TUBE	2
1-21	64006-01	LOCKWSHR-HELICAL 1/4	2
1-22	64123-89	BLT-HEX 1/4-20 X 3/4	2
1-23	38061A	COVER	2
1-24	2306144	S DOCU TUBE W/LAB	1
1-25	4116243	COVER-MUFFLER	1
1-26 *	4163231	ENGINE-16HP KAW KAI ESEU	1
	2722214	FILTER-OIL	
	4153902	FILTER-AIR	
	4153903	FILTER-PRE	
	4116332	MUFFLER-15HP KAW EC	
(SERVICE MANUAL 15 HP KAW #99920-2129-03)			
1-27	64211-01	WSHR-ALUM,BACKING	2
1-28	64215-02	RIVET-POP IFI# 44	2
1-29	64205-018	BLT MET M8-1.25X15	1
1-30	64002-04	LOCKWASHER, EXT. 5/16	1
1-31	48255-01	STREET ELBOW 90DEG	1
1-32	69216.7	CAP-RESERVOIR	1

*** AVAILABLE THROUGH KAWASAKI DEALER**

ITEM	PART NO.	DESCRIPTION	QTY

FIGURE 2


ENGINE CRANKSHAFT
TO ENGINE MOUNT
31
32
40
9
29
2
22
14
38
36
1
42
6
41
43
45
28
39
19
35
16
17
10
18
13
20
12
11
34
37
33
15
46
5
8
7
4
27
30
3
26
25
44
24
23

EC Hydro Midsize

LOWER ENGINE DECK ASSY/CLUTCH

FIGURE 2

ITEM	PART NO.	DESCRIPTION	QTY
2-1	2721647	PULLEY-4.50E.O.D.	1
2-2	64163-31	WASHER, 25/64 X 1 X 12	6
2-3	2721110	CLUTCH-ELECTRIC (INCLUDES ITEM 30)	1
2-4	2721331.7	WLDMT-CLUTCH STOP MID	1
2-5	2721642	BELT-HA 49.0	1
2-6	2722244	PULLEY- A SECTION 4.50	2
2-7	38304-03	BRG-FLANGED PLASTIC	1
2-8	4121540	PIN-CLUTCH	1
2-9	64123-15	BLT-HEX HD 3/8-16X3/4	1
2-10	2721641.7	WLDMT-IDLER ARM	1
2-11	4116712	PIN-PIVOT	1
2-12	64163-65	WASHER 0.890 X 1.375	6
2-13	64123-70	BOLT-HEX 3/8-16X1-1/2	1
2-14	64123-138	BLT-HEX 3/8-16X3-3/4	1
2-15	64229-03	LOCKNUT-NYLON 3/8-16	3
2-16	2308000	PULLEY-IDLER 4.00 EOD	1
2-17	33148-01	SPACER	1
2-18	38219	SPRING-TENSION	1
2-19	64123-87	BLT-HEX 3/8-16 X 1-3/4	1
2-20	64141-4	NUT-WLF 3/8-16	3
2-21	* 4121560	KIT-BRAKE POLE RPLCMNT	1
2-22	64197-005	BLT-TDFM 3/8-16X1-1/4	4
2-23	64123-155	BLT-HEX 7/16-20 X 3	1
2-24	64006-06	LOCKWSHR-HELICAL 7/1	1
2-25	64123-54	BOLT, 5/16-18X3/4 HEX	2
2-26	64163-55	WASHER .328X.75X14 GA	2
2-27	64229-02	LOCKNUT-NYLON 5/16-18	2
2-28	64164-12	1/4X1/4X1 SQ END KEY	1
2-29	64123-75	BOLT, 3/8-16X3 HEX	2
2-30	2720949	ASSY-CLUTCH WIRE	1
2-31	2721615	PUMP-HYDRO LH	1
2-32	4112782	PUMP-HYDRO RH	1
2-33	2721541	PULLEY-IDLER 5 IN	1
2-34	2721401.7	WLDMT-IDLER ARM	1
2-35	64163-61	WSHR .81X.406X16GA	1
2-36	64123-16	BLT-HEX 3/8-16X1-1/4	4
2-37	2188131	SPRING-EXTENSION	1
2-38	4131068.2	WLDMT-ENGINE DECK	1
2-39	4116691	PIN-PIVOT	1
2-40	64268-03	NUT-FL NYL LOCK 3/8-16	4
2-41	64044-6	SCREW-SET 5/16-18X1/4	4
2-42	64238-03	KEY-MET 5MM SQ X 28	2
2-43	64209-09	WASHER-CONICAL SPRING	2
2-44	64163-51	WSHR.453X1.38X7GA	1
2-45	64205-013	BLT-MET M6-1 X 12	2
2-46	64221-04	E-RING.875	2

*** NOT ILLUSTRATED**

ITEM	PART NO.	DESCRIPTION	QTY

FIGURE 3

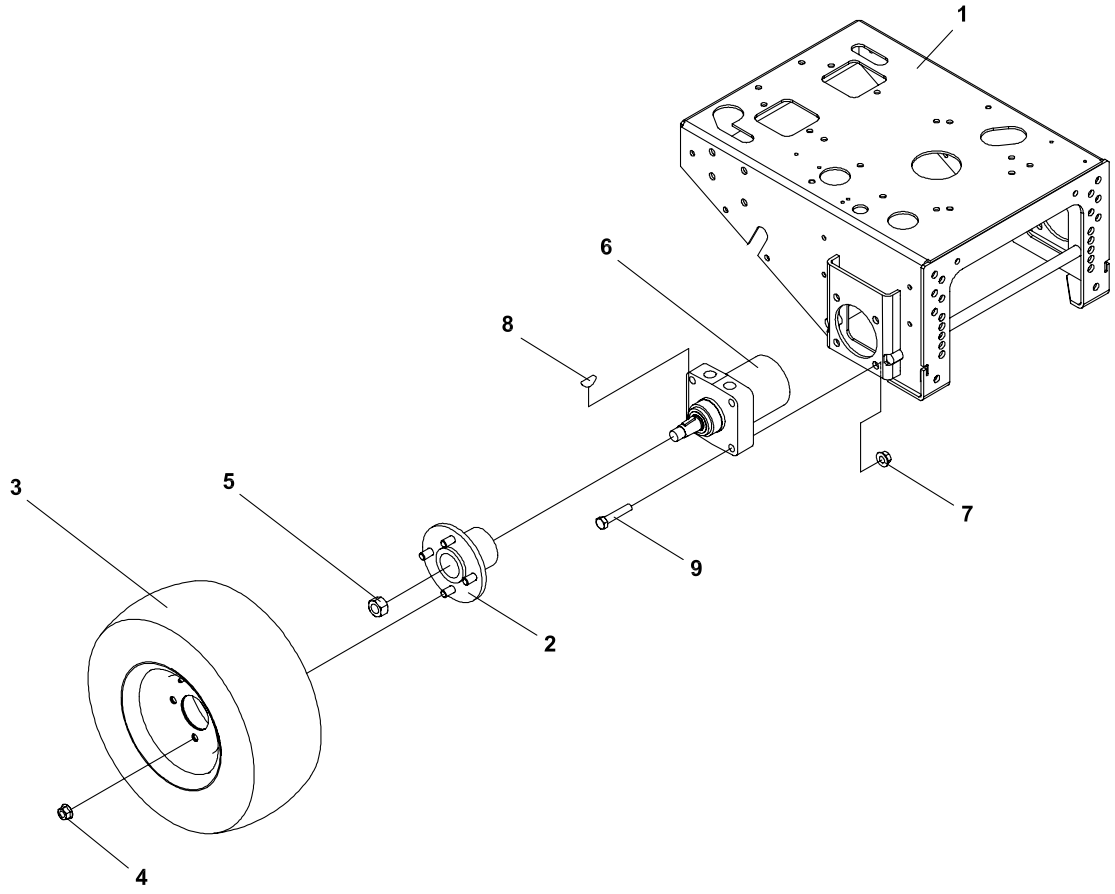
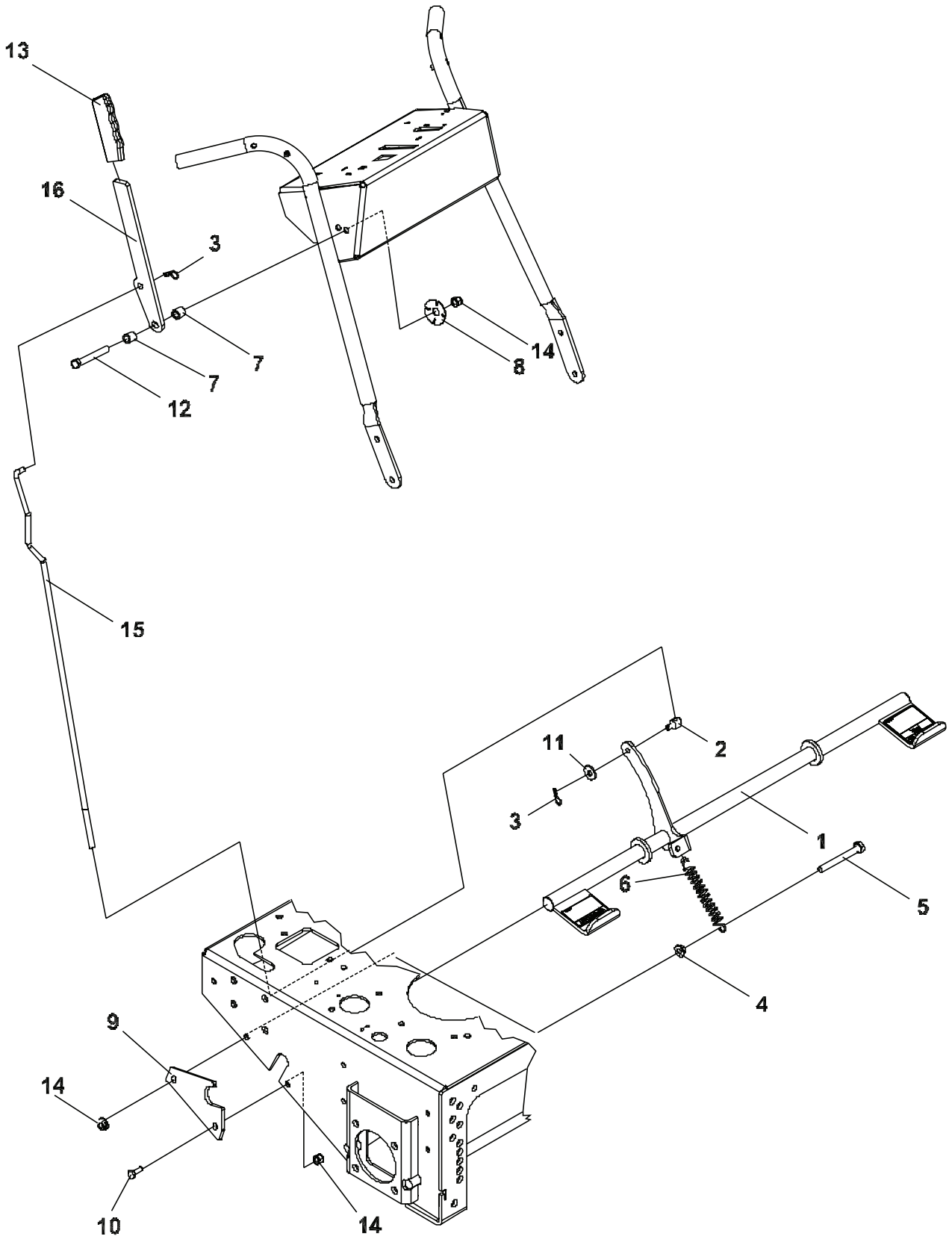


FIGURE 3

ITEM	PART NO.	DESCRIPTION	QTY
3-1	4131068.2	WLDMT-ENGINE DECK	1
3-2	2721620.7	WLDMT-HUB	2
3-3	2721956	ASSY-WHEEL 16 X 7.50 X 8	2
	2721956-01	TIRE-16X7.50 X 8 MLTI TRC	1
	2721956-02	WHEEL W/ DUAL VALVES	1
3-4	64267-01	NUT-HEX FLANGED 1/2-20	8
3-5	64025-06	NUT-HEX 3/4-16 2A	2
3-6	2308051	MOTOR-WHEEL ROSS MF	2
3-7	64141-13	NUT WLF 1/2-13	8
3-8	64164-28	#808 WOODRUFF KEY	2
3-9	64123-72	BLT-HEX 1/2-13X2-1/2	8

ITEM	PART NO.	DESCRIPTION	QTY

FIGURE 4



PARKING BRAKE

FIGURE 4

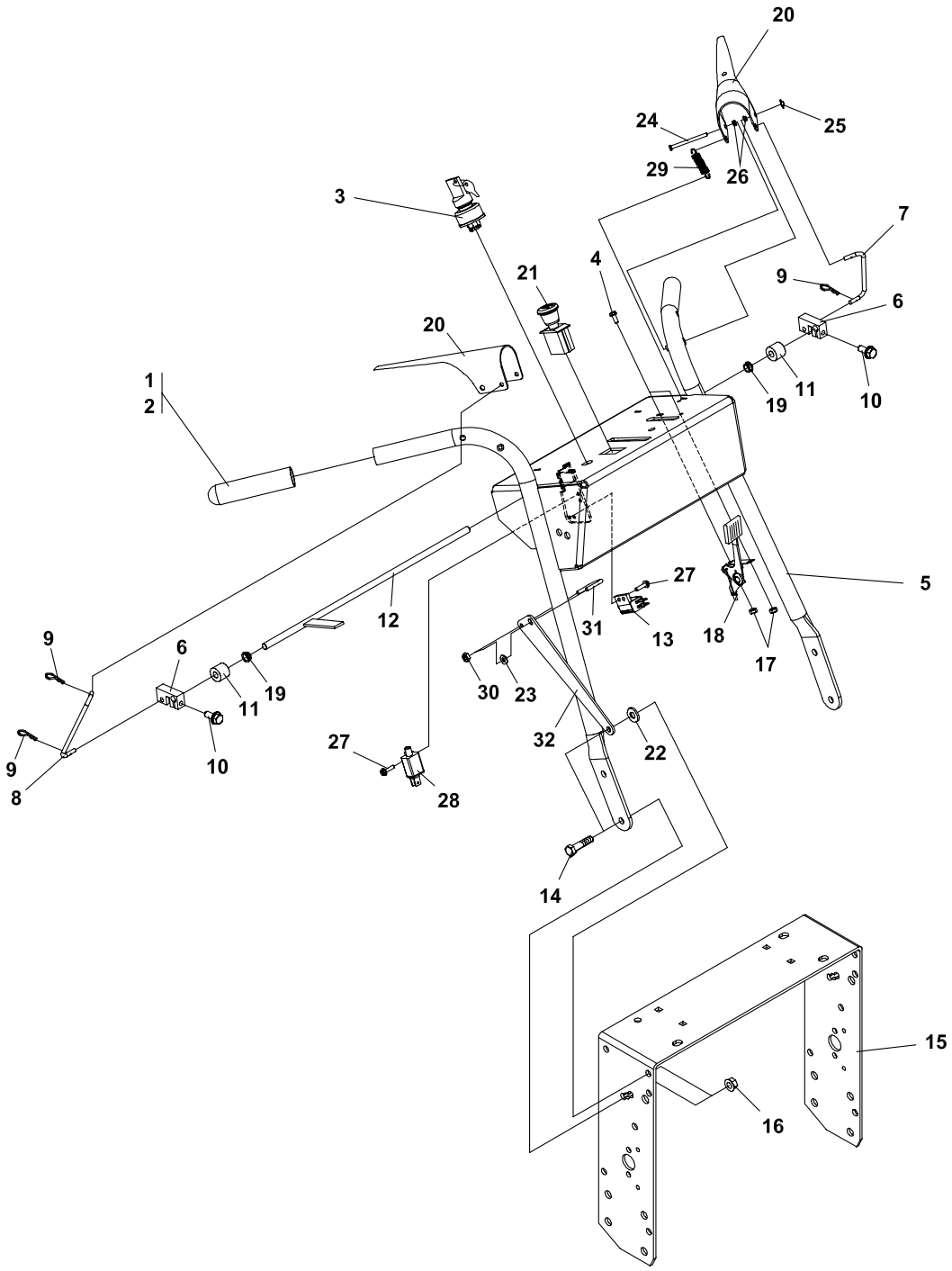
ITEM	PART NO.	DESCRIPTION	QTY
4-1	4131073.7	WLDMT-BRAKE SHAFT	1
4-2	33103	SWIVEL	1
4-3	64168-2	COTTER-HAIRPIN.08X1.19	2
4-4	64001-6	NUT-HEX JAM,3/8-16	1
4-5	64123-138	BLT-HEX 3/8-16X3-3/4	1
4-6	2188131	SPRING-EXTENSION	1
4-7	2183071-01	SPACER-15.88X10.32X16	2
4-8	64171-2	WAVE WASHER	1
4-9	4131072.7	PLATE-BRK SHFT RETNR	2
4-10	64123-50	BOLT-HEX 3/8-16X1	43
4-11	64163-02	WSHR-.325 X .596 X 11GA	1
4-12	64123-82	BOLT-HEX 3/8-16X2-1/2	1
4-13	38404-01	GRIP-CONTROL LEVER	1
4-14	64229-03	LOCKNUT-NYLON 3/8-16	5
4-15	4132134	ROD-PARK BRAKE	1
4-16	2721632.7	LEVER-BRAKE	1

ITEM	PART NO.	DESCRIPTION	QTY

ELECTRIC START UPPER HANDLE

FIGURE 5

EC Hydro Midsize



ELECTRIC START UPPER HANDLE

FIGURE 5

ITEM		PART NO.	DESCRIPTION	QTY
5-1		PL5029	GRIP-HANDLE	2
5-2	*	2308121	ADHESIVE-3 GRAM TUBE (USE WITH PL5029 GRIP)	1
5-3		128010	KEY SWITCH	1
5-4		64152-46	SCR-SLT HH 10-24X1/2	2
5-5		4122157	S UP HNDL W/LBS, EC HYD	1
5-6		2303023	CONNECTOR-OP	2
5-7		4122104	ROD-HANDLE LINK, LH	1
5-8		4122107	ROD-HANDLE LINK, RH	1
5-9		64168-2	COTTER-HAIRPIN.08X1.19	4
5-10		64197-002	BLT-TDFM 1/4-20X3/4	2
5-11		33030-09	IDLER-BUSHING	2
5-12		4122056	WLDMT-OP PRESENCE	1
5-13		108208	SWITCH DBL POLE	1
5-14		64123-50	BOLT, 3/8-16X1 HEX	4
5-15		2722269.2	HANDLE-LOWER	1
5-16		64141-4	NUT-WLF 3/8-16	6
5-17		64025-15	NUT-HEX #10-24 KEPS	2
5-18		38357-09	CONTROL-THROTTLE	1
5-19		38371-01	BRG-NYLINER 3/8	2
5-20		2302152.7	HNDLE-OP PRESENT	2
5-21		2721505	SWITCH-PTO	1
5-22		64163-83	WASHER-.406 X 1.00 X.25	2
5-23		64163-03	WSHR-.256IDX.62ODX18GA	2
5-24		64188-44	PIN-CLEVIS 3/16 X 2.25	2
5-25		64175-01	PUSHNUT-3/16 ROD	2
5-26		38371-03	BRG-NYLINER 3/16	4
5-27		64197-015	BLT-TDFM 10-32X1/2	4
5-28		2308094	SWITCH-NCNC DBL POLE	1
5-29		2308065	SPRING-TENSION	2
5-30		64229-01	LOCKNUT-NYLON 1/4-20	4
5-31		64225-03	U-BOLT	2
5-32		2722062.7	BRACE-HANDLE	2

ITEM	PART NO.	DESCRIPTION	QTY

*** NOT ILLUSTRATED**

FIGURE 6

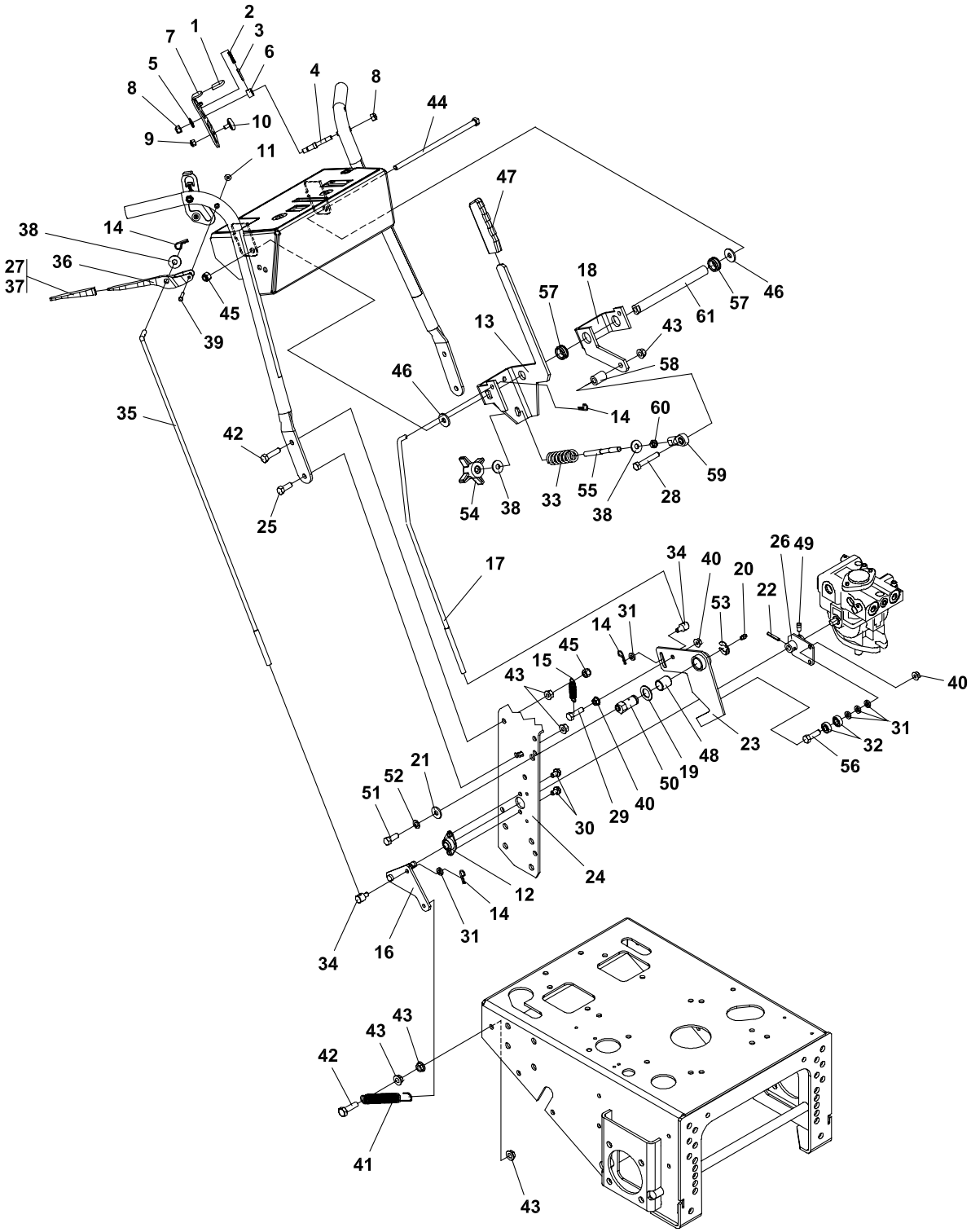

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FIGURE 6

ITEM	PART NO.	DESCRIPTION	QTY
6-1	2722426	GRIP-TRACTION LOCK	2
6-2	38189	SPRING-COMPRESSION	2
6-3	64061-37	ROLL PIN-1/8 X 1.00 SS	2
6-4	2303076	STUD-DOUBLE ENDED	2
6-5	62464-5A	WASHER,THRUST 5/16X3/4	2
6-6	33243	SPACER	2
6-7	2722242	LATCH-ROLLER LH HYDRO	1
*	2722243	LATCH-ROLLER RH HYDRO	1
6-8	64229-02	5/16-18 NYLON LOCKNUT	4
6-9	64229-01	LOCKNUT NYL 1/4-20	2
6-10	2308002	BRG-RADIAL W/THD STUD	2
6-11	64175-01	PUSH NUT	2
6-12	2308080	BEARING SELF ALIGNED	2
6-13	2721843.7	ARM-RH SPEED CONTROL	1
6-14	64168-2	HAIRPIN COTTER	7
6-15	2308065	SPRING EXTENSION	2
6-16	2721660.7	WLDMT-PUMP ARM RH	1
*	2721622.7	WLDMT-PUMP ARM LH	1
6-17	2722305	ROD-SPEED CONTROL	2
6-18	2721842.7	ARM-LH SPEED CONTROL	1
6-19	64163-06	WSHR.768/.756X1.25X14GA	2
6-20	85010N	ZERK, 1/4-28 STR	2
6-21	64163-61	WSHR .81X.406X16GA	2
6-22	64061-28	ROLL PIN 3/16 X 1 1/4	2
6-23	2721617.7	WLDMT-SPEED CONTROL	2
6-24	2722269.2	HANDLE-LOWER	1
6-25	64123-50	BOLT, 3/8-16X1 HEX	2
6-26	2306081.7	WLDMT PUMP ARM	2
6-27 *	2308121	ADHESIVE	1
	(USE WITH 38009N GRIP)		
6-28	64123-100	BOLT-3/8-16X2-1/4 HEX	1
6-29	64123-68	BLT-HEX 5/16-18 X 1	2
6-30	64139-13	BLT-WLF 5/16-18X1/2	4
6-31	64163-02	WSHR 21/64X19/32X11 GA	11
6-32	38372	BEARING BALL	4
6-33	2720312	SPRING-COMP IDLER PLT	1
6-34	33103	SWIVEL	4
6-35	4122108	ROD-TRCTN CNTRL,HYD	2
6-36	31032	LEVER TRACTION CNTRL	2
6-37	38009N	GRIP TRACTION CNTRL	2
6-38	64163-31	WASH 25/64X1X12 GA	4
6-39	64188-34	PIN-CLEVIS 3/16 X 2.25	2
6-40	64141-6	NUT-WLF 5/16-18	6
6-41	4117212	SPRING EXTENSION	2
6-42	64123-70	BOLT-HEX 3/8-16X1-1/2	4
6-43	64141-4	NUT-WLF 3/8-16	10
6-44	64123-202	BLT-HEX 3/8-16 X 9	1
6-45	64229-03	NUT-NYLOCK 3/8-16	3
6-46	2308066	FRICTION WASHER	2
6-47	38404-01	GRIP,CONTROL LEVER	1
6-48	2308076-02	BEARING-PLASTIC	2
6-49	64192-04	SET SCREW 5/16-18X5/8	2
6-50	2303058	ECCENTRIC SHAFT W/ZRK	2
6-51	64123-02	BLT HEX 3/8-24 X 1	2
6-52	64006-03	WASHER, 3/8 HELICL LCK	2
6-53	64144-16	RING,CLIP-.75X.062	2
6-54	38524	KNOB-4 PRONG 3/8-16	1
6-55	2721854	STUD-3/8-16X 3/8-24 4.5LG	1
6-56	64123-69	BOLT-5/16-18X1-1/2 HEX	2
6-57	118047-09	BUSHING-FLIP LOK.75ID	2
6-58	33030-08	BUSHING-IDLER	1
6-59	138011	BALL JOINT	1
6-60	64001-2	NUT 3/8-16	1
6-61	2721844	BUSHING-SPEED CONTROL	1

TRACTION LOCK ASSY'S ARE ALSO AVAILABLE

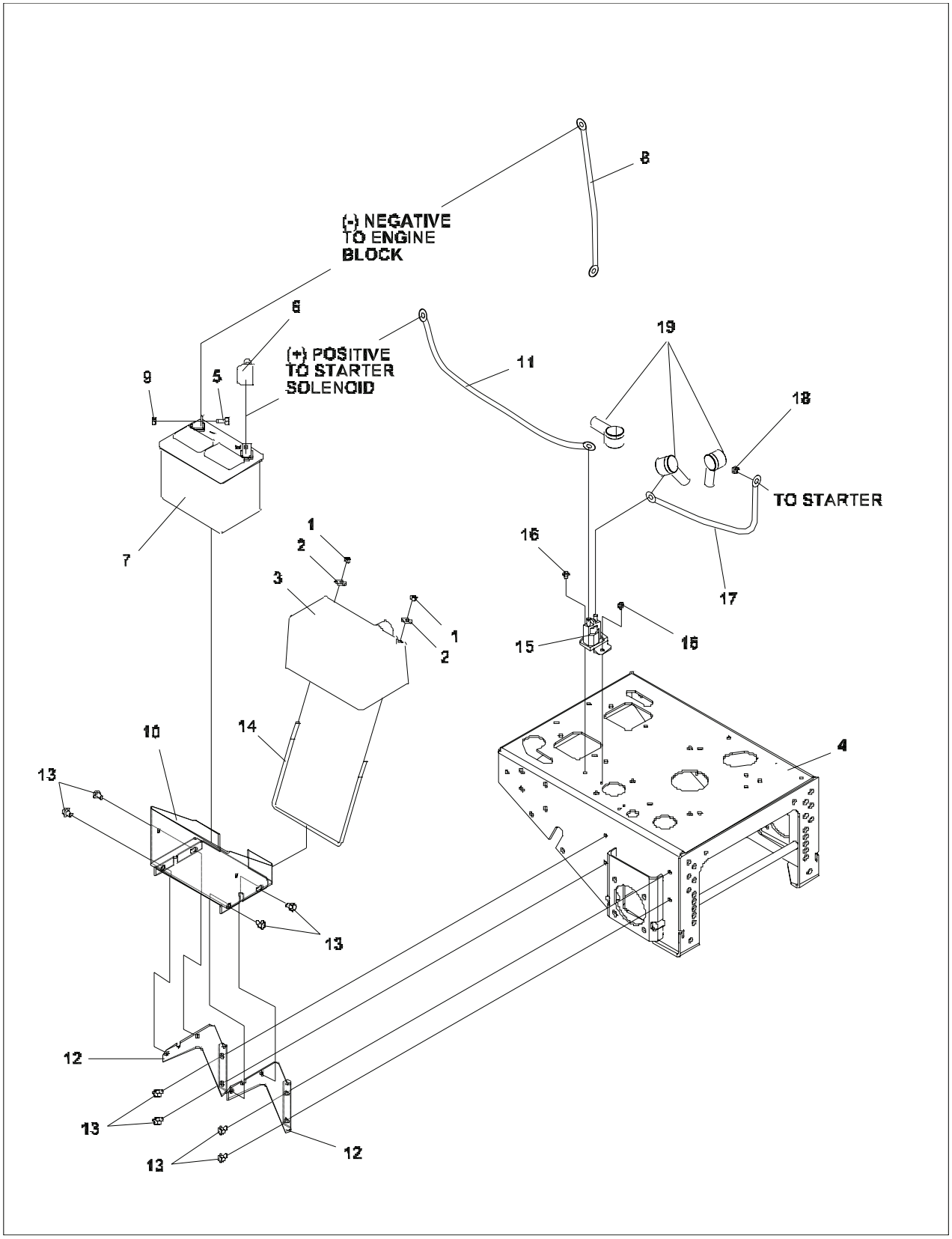
4113565 S-TRCTN LOCK ASSY RH 1
(INCLUDES ITEMS 1-4, 6, 7, 9-12)

4113564 S-TRCTN LOCK ASSY LH 1
(INCLUDES ITEMS 1-4, 6, 7, 9-12)

*** NOT ILLUSTRATED**

ELECTRIC START BATTERY

FIGURE 7



ELECTRIC START BATTERY

FIGURE 7

ITEM	PART NO.	DESCRIPTION	QTY
7-1	64229-02	LOCKNUT-NYLON 5/16-18	2
7-2	64163-29	WASHER	2
7-3	128035	COVER-BATTERY	1
7-4	4131068.2	WLDMT-ENGINE DECK	1
7-5	64123-54	BOLT, 5/16-18X3/4 HEX	2
7-6	112386	BOOT-BATTERY TERM POS	1
7-7	108055	BATTERY	1
7-8	108061-16	CABLE-BTTRY 31.5 BLACK	1
7-9	64025-02	NUT-HEX 5/16-18	2
7-10	4115331	S-TRAY, BATTERY	1
7-11	2722227-03	CABLE-BTTRY W/CONDUIT	1
7-12	2722202.7	SUPPORT-BATT TRAY	2
7-13	64197-016	BLT-TDFM 3/8-16X1/2	8
7-14	123026	ROD,BATTERY HLD DWN	1
7-15	38665	SOLENOID	1
7-16	64152-23	1/4-20X3/8 LG SP SCREW	2
7-17	108061-15	CABLE-BATTERY 6.5 RED	1
7-18	64141-2	NUT-WLF 1/4-20	1
7-19	230895	COVER-TERMINAL	3

ITEM	PART NO.	DESCRIPTION	QTY

FIGURE 8

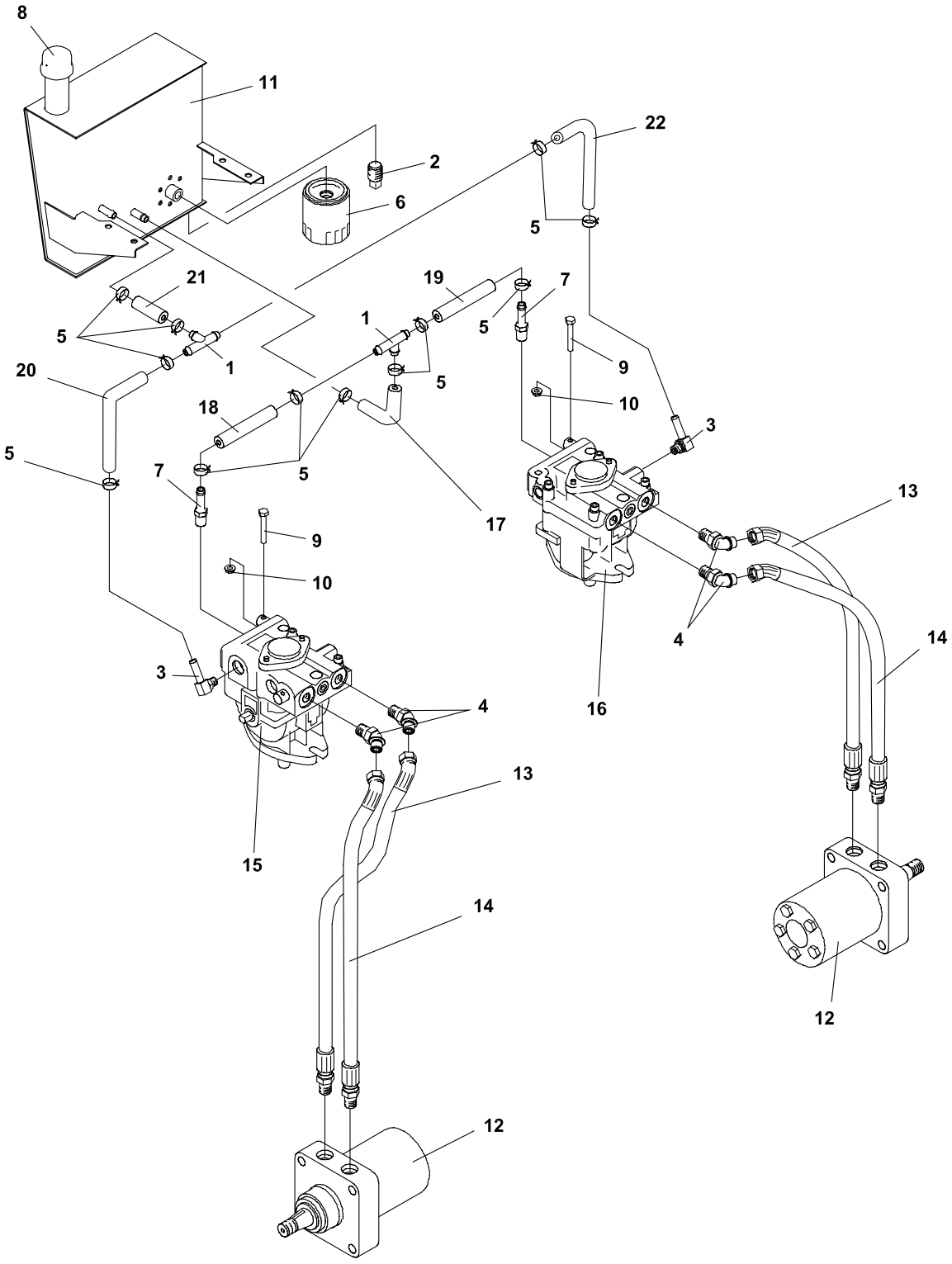

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FIGURE 8

ITEM	PART NO.	DESCRIPTION	QTY
8-1	58026-01	3-WAY CONNECTOR	2
8-2	108029	PLUG, MAGNETIC	1
8-3	158058-04	FITTING-90 BARB, ADJ.	2
8-4	108205-02	ELBW-MALE 45 8X8 37-ORB	4
8-5	88042-04	CLAMP-HOSE 5/8"	12
8-6	2720396	FLTR, 25 MCRN SM CAM	1
8-7	69060-01	FTG-BARB 9/16 X 3/8 ST	2
8-8	69216.7	CAP-RESERVOIR	1
8-9	64123-60	BOLT, 1/4-20 X 2 HEX	2
8-10	64229-01	LOCKNUT-NYLON 1/4-20	2
8-11	2306138	S HYD RESER W/LABS EC	1
8-12	2308051	MOTOR WHEEL ROSS	2
8-13	2692300-01	HOSE-1/2 37/ORB X 18.5 LG	2
8-14	2692300-02	HOSE-1/2 37/ORB X 18.5 LG	2
8-15	4112782	PUMP-HYDRO RH	1
	(SEE FIG 10 FOR PARTS BREAKDOWN)		
8-16	2721615	PUMP-HYDRO LH	1
	(SEE FIG 10 FOR PARTS BREAKDOWN)		
(69053-05 IS A SERVICEABLE LENGTH OF 55")			
8-17	69053-05	3/8 HI TEMP HOSE 17.0"	1
8-18	69053-05	3/8 HI TEMP HOSE 5.0"	1
8-19	69053-05	3/8 HI TEMP HOSE 5.0"	1
8-20	69053-05	3/8 HI TEMP HOSE 7.5"	1
8-21	69053-05	3/8 HI TEMP HOSE 6.8"	1
8-22	69053-05	3/8 HI TEMP HOSE 12.0"	1

ITEM	PART NO.	DESCRIPTION	QTY

SERVICEABLE HYDRAULIC O-RINGS

SAE PORT 'O' RING		
PART NUMBER	THREAD SIZE	AS-568#
158061-10	9/16-18	-906
158061-11	3/4-16	-908
158061-12	7/8-14	-910
158061-13	1-1/16-12	-912
158061-14	1-5/16-12	-916
158061-16	1-5/8-12	-920
158061-03	1-7/8-12	-924

NOTE:
<u>DO NOT</u> use teflon tape on any hydraulic fittings.
Use a liquid pipe sealant.

FIGURE 9

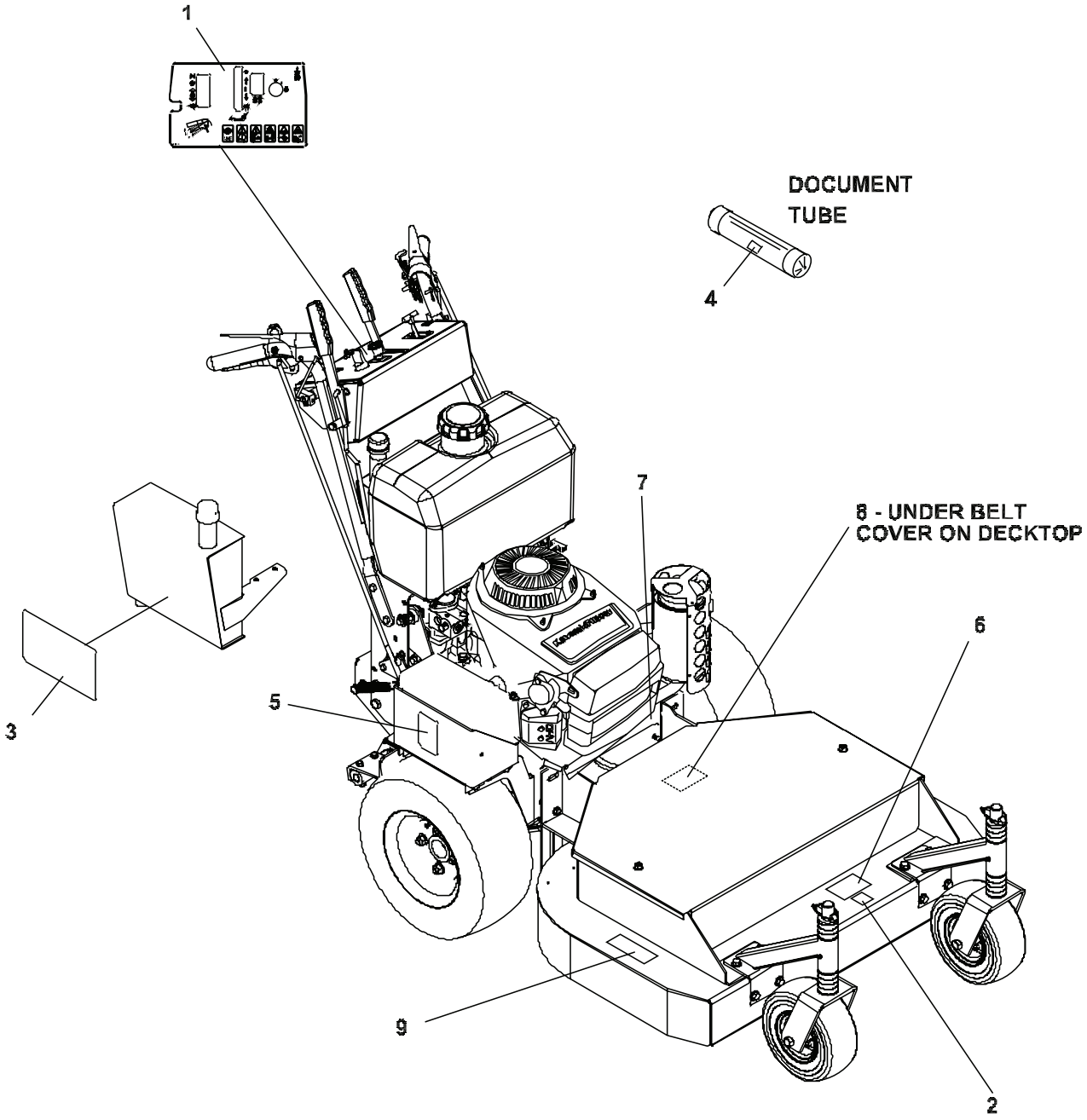


FIGURE 9

ITEM	PART NO.	DESCRIPTION	QTY
9-1	4122171	LABEL-CNTRL PNL EC HYD	1
9-2	009034760	DECAL-NOISE 100	1
9-3	2000664	LABEL-HYDRAULIC MS EEC	1
9-4	2000655	LABEL-READ OPRTRS EEC	1
9-5	2000650	LABEL-BATTERY EEC	1
9-6	2000646	LABEL-ce95	1
9-7	2000704	LABEL-MIDSIZE PATENT	1
9-8	2000638	LABEL-CON WASHER EEC	1
9-9	2000760	LABEL-HANDS/ROCKS EC	1
9-10*	4127946	LABEL-DECK,RANSOMES	1

*NOT ILLUSTRATED

ITEM	PART NO.	DESCRIPTION	QTY

FIGURE 10

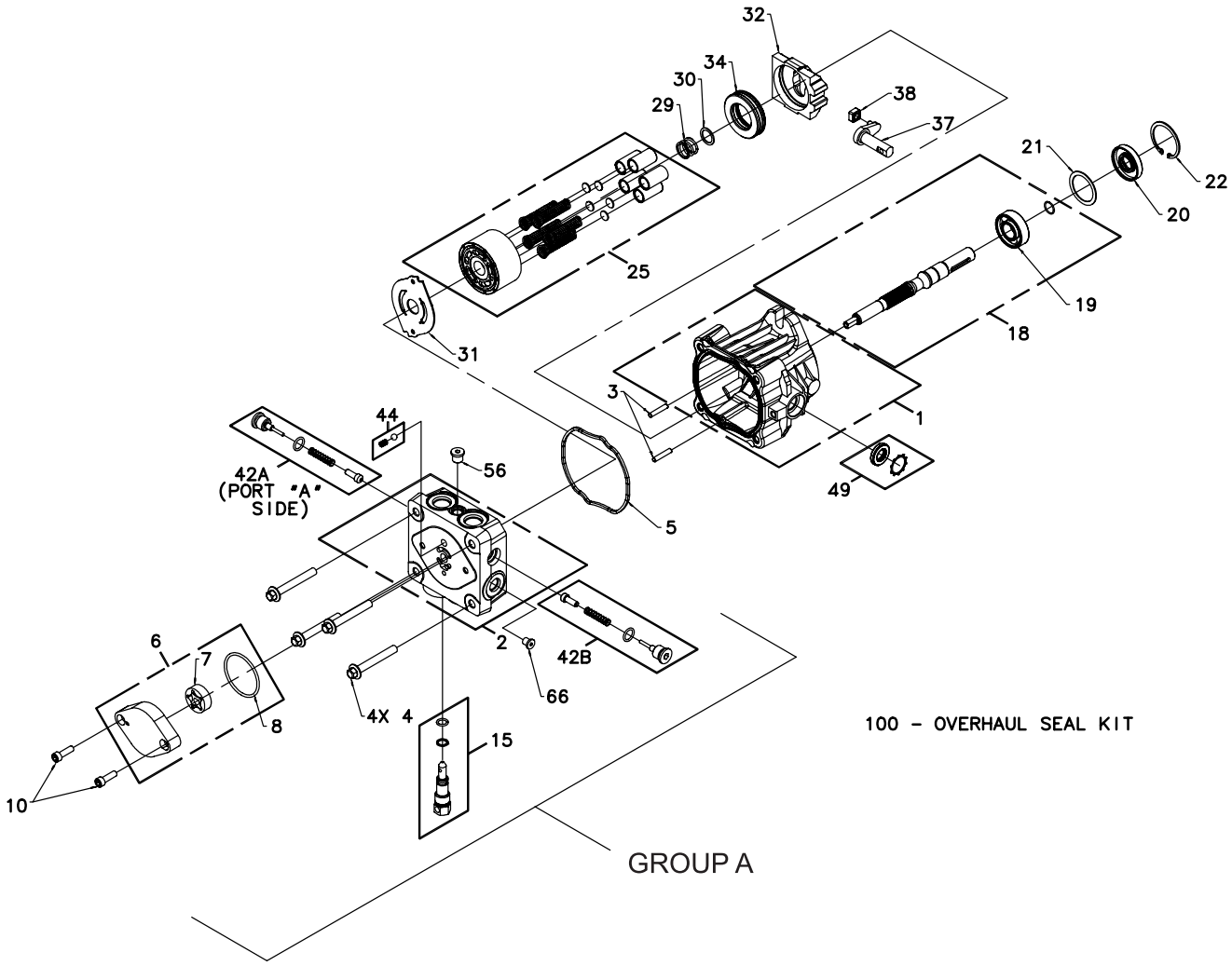
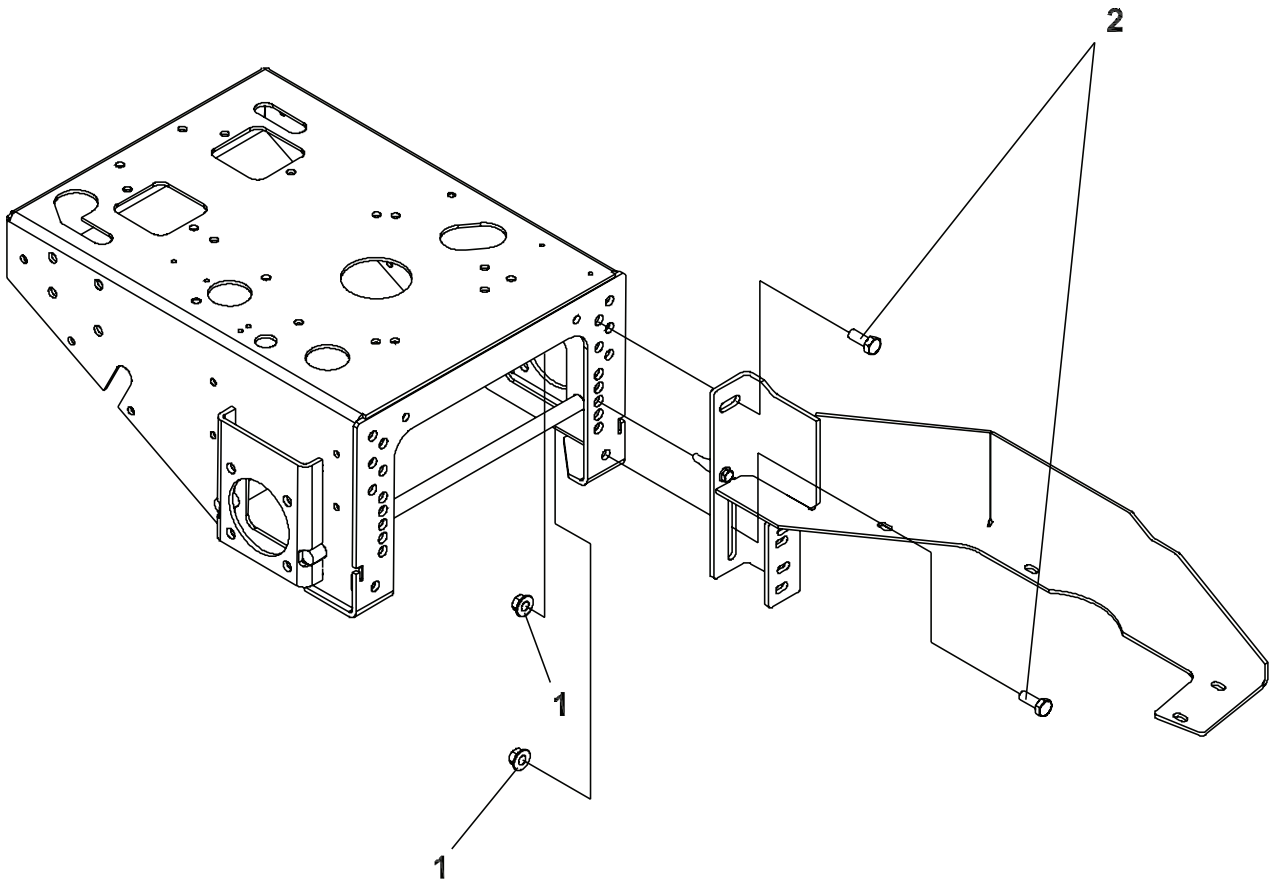

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4X 4
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100 - OVERHAUL SEAL KIT
GROUP A

FIGURE 10

4112782 PUMP-HYDRO RH ILLUSTRATED AS SHOWN
2721615 PUMP-HYDRO LH ILLUSTRATED AS SHOWN EXCEPT GROUP A IS ROTATED 180° AROUND
THE CENTERLINE OF THE PUMP.

ITEM	HYDROGEAR PART NO.	CGC, INC. PART NO.	DESCRIPTION	QTY
10-1	70516	-----	HOUSING KIT	1
10-2	70517	-----	END CAP KIT	1
10-3	50641	-----	STRAIGHT HEADLESS PIN	2
10-4	50969	2721615-01	FLANGE BOLT M8-1.25 X 60	4
10-5	51232	2721615-02	HOUSING O-RING	1
10-6	2513027	2721615-03	CHARGE PUMP KIT (STD)	1
10-7	50273	2721615-04	STD GEROTOR ASSEMBLY	1
10-8	9004101-1340	2721615-05	O-RING	1
10-10	50095	2721615-06	SOCKET HEAD M6-1.0 X 20	2
10-15	2513030	-----	BYPASS VALVE KIT (BLANK)	1
10-18	70521	2721615-07	PUMP SHAFT KIT	1
10-19	50315	-----	BALL BEARING 17 X 40 X 12	1
10-20	51161	-----	LIP SEAL 17 x 40 x 12	1
10-21	50951	-----	SPACER	1
10-22	50329	-----	RETAINING RING	1
10-25	70331	2721615-08	CYLINDER BLOCK KIT	1
10-29	2003014	-----	BLOCK SPRING	1
10-30	2003017	-----	BLOCK THRUST WASHER	1
10-31	51246	2721615-09	VALVE PLATE	1
10-32	2003087	2721615-10	SWASHPLATE	1
10-34	50551	2721615-11	BALL THRUST BEARING	1
10-37	2003005	2721615-12	TRUNNION ARM	1
10-38	2000015	2721615-13	SLOT GUIDE	1
10-42A	2510027	2721615-14	CHECK VALVE KIT (.031")	1
10-42B	2510050	2721615-15	CHECK VALVE KIT (BLANK)	1
10-44	70403	2721615-16	CHARGE RELIEF VALVE KIT	1
10-49	2513043	2721615-17	TRUNNION SEAL/RETAINER KIT	1
10-56	9005110-4400	-----	STRAIGHT THREAD PLUG	1
10-66	9005110-3100	-----	5/16 SAE PLUG	1
10-100	70525	2721615-18	OVERHAUL SEAL KIT	1

FIGURE 11



CUTTERDECK MOUNTING

FIGURE 11

ITEM	PART NO.	DESCRIPTION	QTY
11-1	64246-04	NUT-WHIZ M12-1.75	4
11-2	64263-018	BLT-FLG HD M12-1.75 X 30	4

ITEM	PART NO.	DESCRIPTION	QTY

FIGURE 12

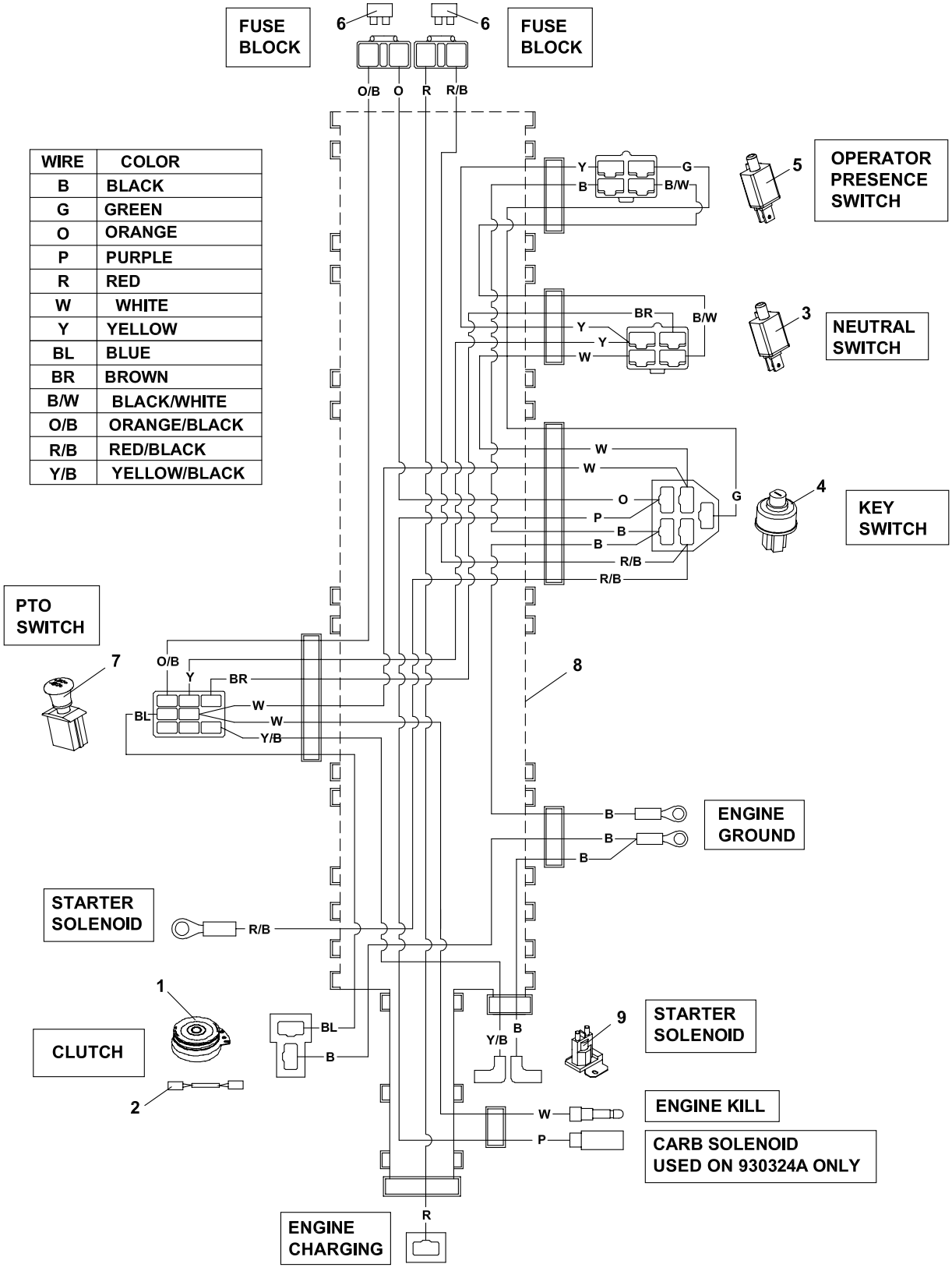

FUSE BLOCK
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FUSE BLOCK
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WIRE COLOR
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G GREEN
O ORANGE
P PURPLE
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Y YELLOW
BL BLUE
BR BROWN
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O/B ORANGE/BLACK
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OPERATOR PRESENCE SWITCH
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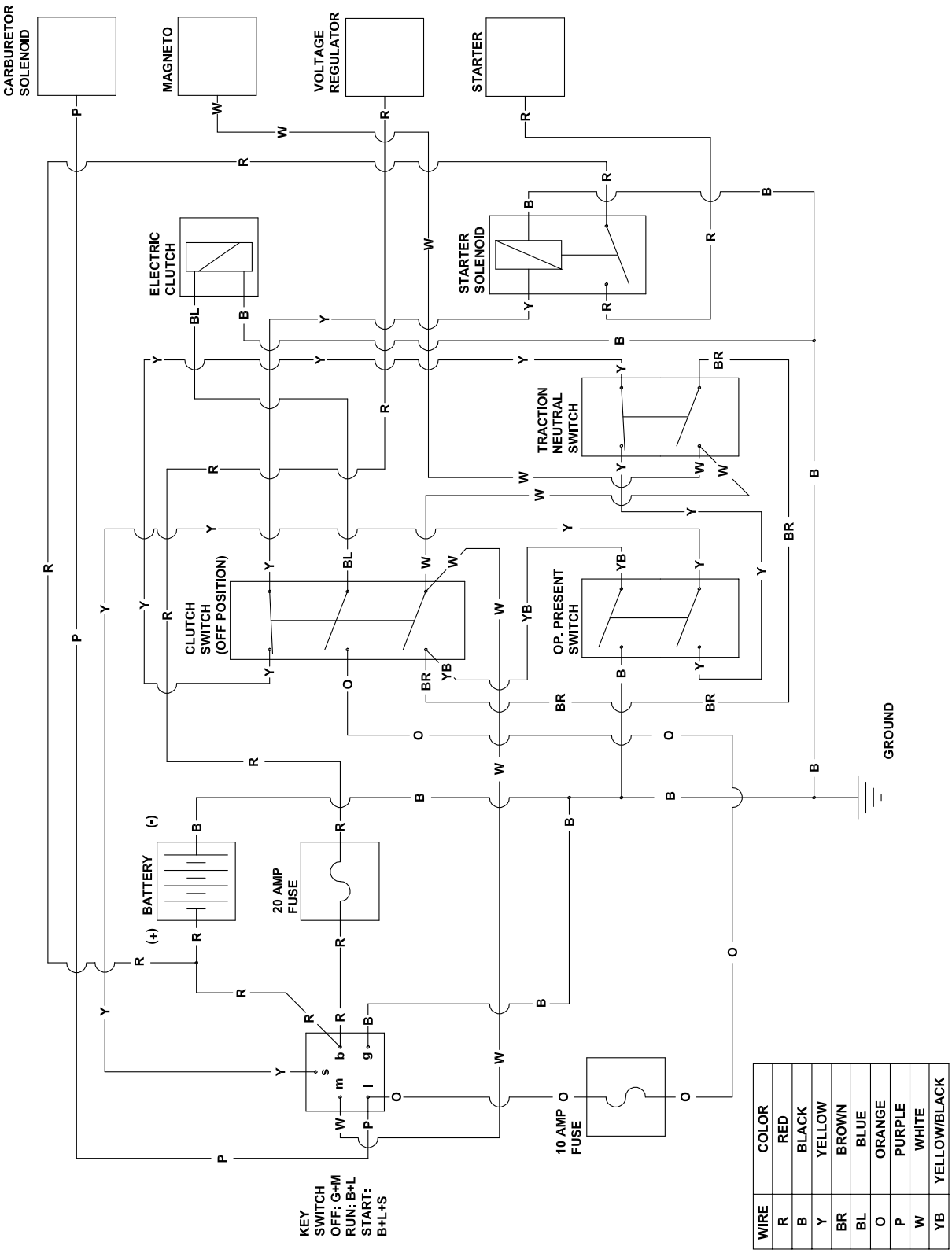
FIGURE 12

ITEM	PART NO.	DESCRIPTION	QTY
12-1	2721110	CLUTCH-ELECTRIC (INCLUDES ITEM 2)	1
12-2	2720949	ASSY-CLUTCH WIRE	1
12-3	108208	SWITCH DBL POLE	1
12-4	128010	KEY SWITCH	1
12-5	2308094	SWITCH-NCNC DBL POLE	1
12-6	148082-20	FUSE 20 AMP	2
12-7	2721505	SWITCH-PTO	1
12-8	4128561	HARNESS-HYDRO MAIN (INCLUDES QTY OF 2 OF ITEM 6)	1
12-9	38665	SOLENOID-STARTER	1
12-10	*108061-15	CABLE-BATTERY 6.5 RED (FROM STARTER SOLENOID TO STARTER)	1
12-11	*2722227-03	CABLE-BTTRY W/CONDUIT (FROM (+) POSITIVE BATTERY TERMINAL TO STARTER SOLENOID)	1
12-12	*108061-16	CABLE-BTTRY 31.5 BLACK (FROM (-) NEGATIVE BATTERY TERMINAL TO ENGINE BLOCK)	1

*** NOT ILLUSTRATED**

ITEM	PART NO.	DESCRIPTION	QTY

FIGURE 13


CARBURETOR SOLENOID
MAGNETO
VOLTAGE REGULATOR
STARTER
ELECTRIC CLUTCH
STARTER SOLENOID
TRACTION NEUTRAL SWITCH
CLUTCH SWITCH (OFF POSITION)
OP. PRESENT SWITCH
BATTERY
(+)
(-)
20 AMP FUSE
10 AMP FUSE
GROUND
KEY SWITCH
OFF: G+M
RUN: B+L
START: B+L+S
WIRE COLOR
R RED
B BLACK
Y YELLOW
BR BROWN
BL BLUE
O ORANGE
P PURPLE
W WHITE
YB YELLOW/BLACK

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY

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FIGURE 14

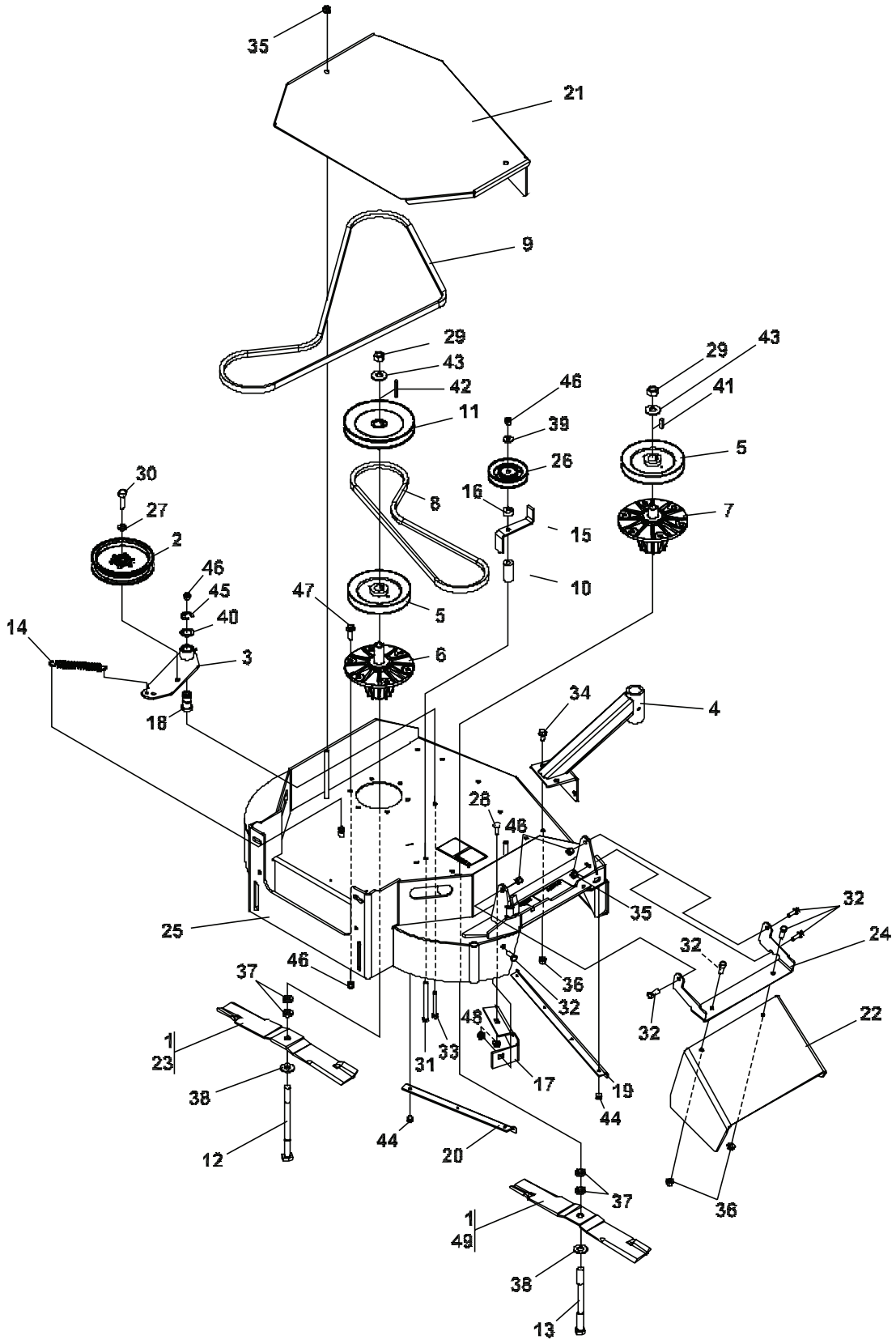
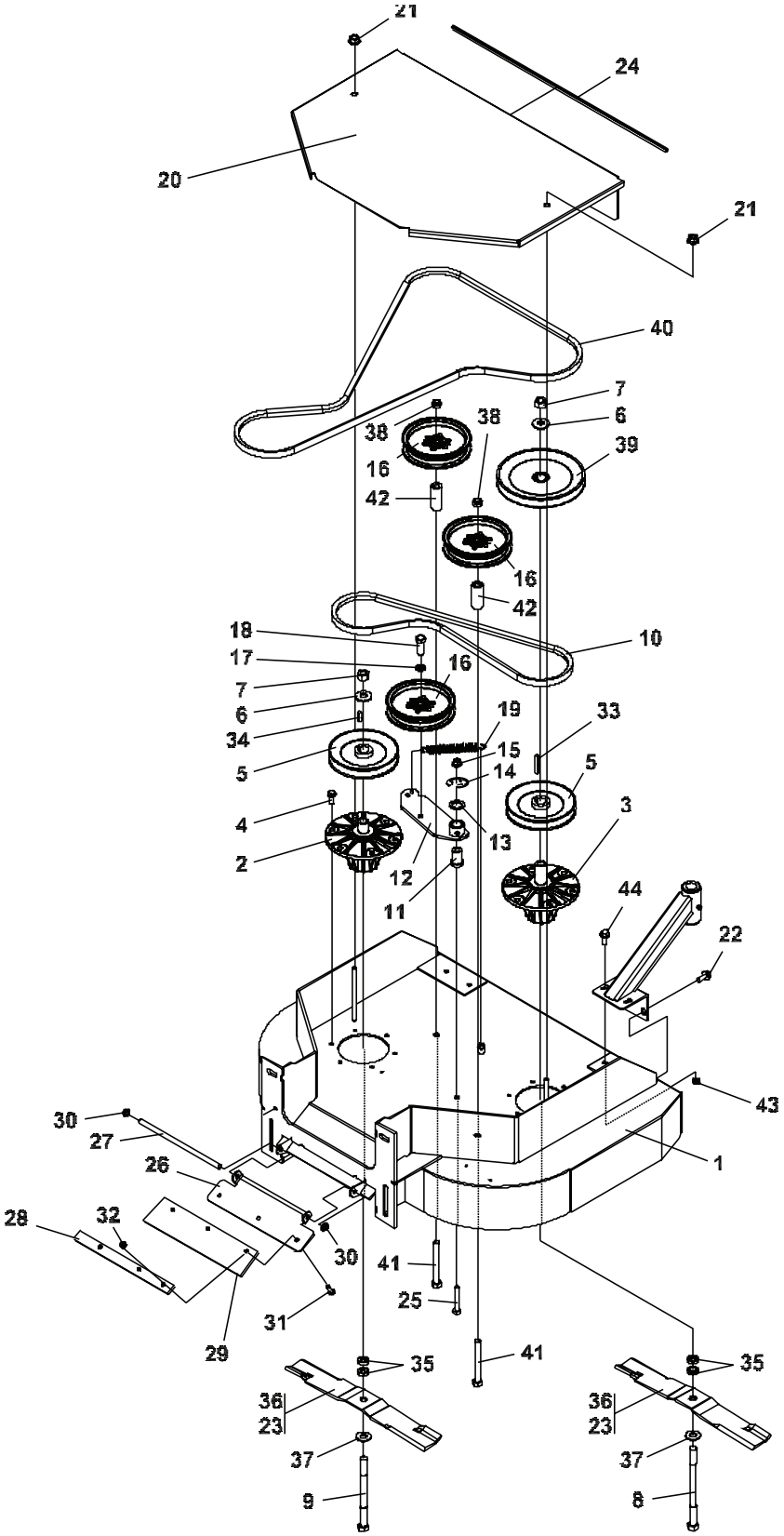

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FIGURE 14

ITEM	PART NO.	DESCRIPTION	QTY
14-1	112243-02	BLADE 18.00 OFFST	2
14-2	128169	PULLEY, IDLER 5.50	1
14-3	2186138.7	WLDMT-DECK IDLER	1
14-4	2306029	S CASTER SUPPORT	2
14-5	2308140	PULLEY-ENGINE	2
14-6	2721097	S-ASSY SPNDL 6 LNG	1
14-7	2721323	S-ASSY SPNDL 6 SHRT	1
14-8	2721477	BELT-HB 56.75	1
14-9	2721478	BELT-HB 85.25	1
14-10	2721485	SPACER-IDLER	1
14-11	2722161	PULLEY-6.75 EOD	1
14-12	33049-02	BOLT-BLADE	1
14-13	33049-05	BOLT-BLADE	1
14-14	38219	SPRING-TENSION	1
14-15	4115420.7	GUIDE-BELT	1
14-16	4115424	SPCR-10.31 X 25.4 X 12.0	1
14-17	4115864.7	BAFFLE-DISCHARGE	1
14-18	4116661	PIN-PIVOT	1
14-19	4119062.2	BRKT-EC FRONT DECK, RH	1
14-20	4119063.2	BRKT-EC FRONT DECK, LH	1
14-21	4119064.2	COVER-BELT, 36 FIXED	1
14-22	4131477.2	CHUTE-DECK, 32-54 SD	1
14-23	2722543-02	BLADE-18.00 ELIMINATOR	2
14-24	4127148.2	BRKT-CHUTE SUPPORT EC	1
14-25	4127209	S-36 DECK SD W/LABS EC	1
14-26	4135265	PULLEY-V IDLER	1
14-27	64006-05	LOCKWSHR-HELICAL 1/2	1
14-28	64018-3	BOLT-3/8-16X1 CARRIAGE	1
14-29	64025-16	NUT-HEX 5/8-18	2
14-30	64123-05	BLT-HEX 1/2-20X1-1/2	1
14-31	64123-173	BLT-HEX 3/8-16X4-1/2	1
14-32	64123-50	BOLT-HEX 3/8-16X1	7
14-33	64123-88	BOLT, 3/8-16X2-3/4 HEX	1
14-34	64262-010	BLT-FLG HD 3/8-16 X 3/4	8
14-35	64268-03	NUT-FL NYLON LOCK 3/8-16	3
14-36	64141-4	NUT-WLF 3/8-16	10
14-37	64163-12	.635/.640X1.0X.25 WASH	4
14-38	64163-16	WASHER-41/64 X 1, 3/8 X 12	2
14-39	64163-31	WASHER, 25/64X1X12	1
14-40	64163-65	WASHER-.890X1.375X18	1
14-41	64164-12	KEY-1/4X1/4X1 SQ END	1
14-42	64164-13	1/4X1/4X2 SQ KEY	1
14-43	64209-03	SPRING WASHER.67 ID	2
14-44	64215-12	RIVET-POP IFI #86	7
14-45	64221-04	E-RING.875	1
14-46	64229-03	LOCKNUT-NYLON 3/8-16	16
14-47	64262-012	BLT-FLG HD 3/8-16 X 1-1/4	12
14-48	64268-03	NUT-FL NYLON LOCK 3/8-16	3
14-49	2722543-02 (OPTIONAL)	BLADE-18.00 ELIMINATOR	2

FIGURE 15


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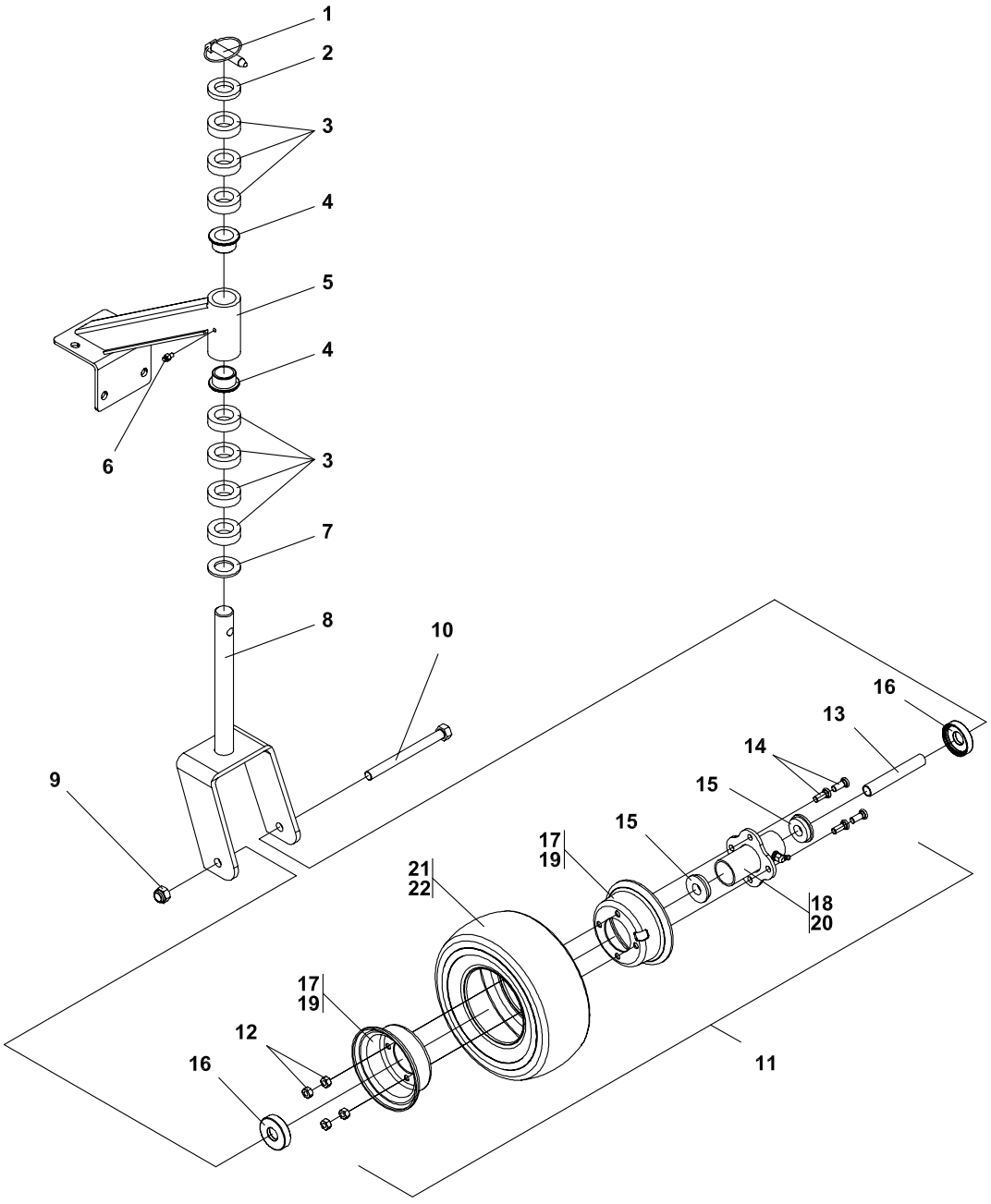
36" EC REAR DISCHARGE DECK

FIGURE 15

ITEM	PART NO.	DESCRIPTION	QTY
15-1	4115087	S-36 DECK RD W/LABS EC	1
15-2	2721323	ASSY-SPINDLE SHORT (SEE FIGURE 5 FOR COMPONENTS)	1
15-3	2721097	ASSY-SPINDLE LONG (SEE FIGURE 5 FOR COMPONENTS)	1
15-4	64197-003	BLT-TDFM 3/8-16 X 1.00	12
15-5	2308140	PULLEY-ENGINE	2
15-6	64209-03	SPRING WASHER 0.67 ID	2
15-7	64025-16	NUT-HEX 5/8-18	2
15-8	33049-02	BOLT-BLADE LONG	1
15-9	33049-05	BOLT-BLADE SHORT	1
15-10	2721477	BELT-HB 56.75	1
15-11	4116661	PIN-PIVOT	1
15-12	2186138.7	WLDMT-DECK IDLER	1
15-13	64163-65	WSHR.890 X 1.375 X 18GA	1
15-14	64221-04	E-RING.875	1
15-15	64229-03	LOCKNUT-NYLON 3/8-16	1
15-16	128169	PULLEY, IDLER 5.50	3
15-17	64006-05	LOCKWSHR-HELICAL 1/2	1
15-18	64123-05	BLT-HEX 1/2-20X1-1/2	1
15-19	38219	SPRING-TENSION	1
15-20	4114377.2	COVER-BELT 36RD	1
15-21	64268-03	NUT-FL NYLON LOCK 3/8-16	2
15-22	64262-010	BLT-FLG HD 3/8-16 X 3/4	4
15-23	2722543-02	BLADE-18.00 ELIMINATOR (OPTIONAL)	2
15-24	108074-17	S-CHANNEL FLEX TRIM 27" (108074-17 IS A SERVICBLE LENGTH OF 38.6")	1
15-25	64123-88	BLT-HEX HP 3/8-16X2 3/4	1
15-26	4114466.2	DEFLECTOR 36RD	1
15-27	4114464	ROD-HINGE 36RD	1
15-28	4114476.2	RETAINER-FLAP	1
15-29	4114465	FLAP-DEFLECTOR 36RD	1
15-30	64175-04	PUSHNUT 3/8 DIA	2
15-31	64018-15	BLT-CRG 5/16-18 X 1	3
15-32	64229-02	LOCKNUT-NYLON 5/16-18	3
15-33	64164-13	1/4X1/4X2 SQ KEY	1
15-34	64164-12	KEY-1/4X1/4X1 SQ END	1
15-35	64163-12	.635/.640X1.0X.25 WASH	4
15-36	112243-02	BLADE 18.00 OFFST LLFT	2
15-37	64163-16	WASHER	2
15-38	64229-05	LOCKNUT, 1/2-13 NYLON	2
15-39	2722161	PULLEY-6.75 EOD	1
15-40	2720815	BELT-PTO 48	1
15-41	64123-74	BLT-HEX 1/2-13 X 4-1/2	2
15-42	4115379	SPACER	2
15-43	64141-4	NUT-WLF 3/8-16	4
15-44	64262-012	BLT-FLG HD 3/8-16 X 1-1/4	4
15-45		6	

CASTER ASSY-FIXED DECKS

FIGURE 16



CASTER ASSY-FIXED DECKS

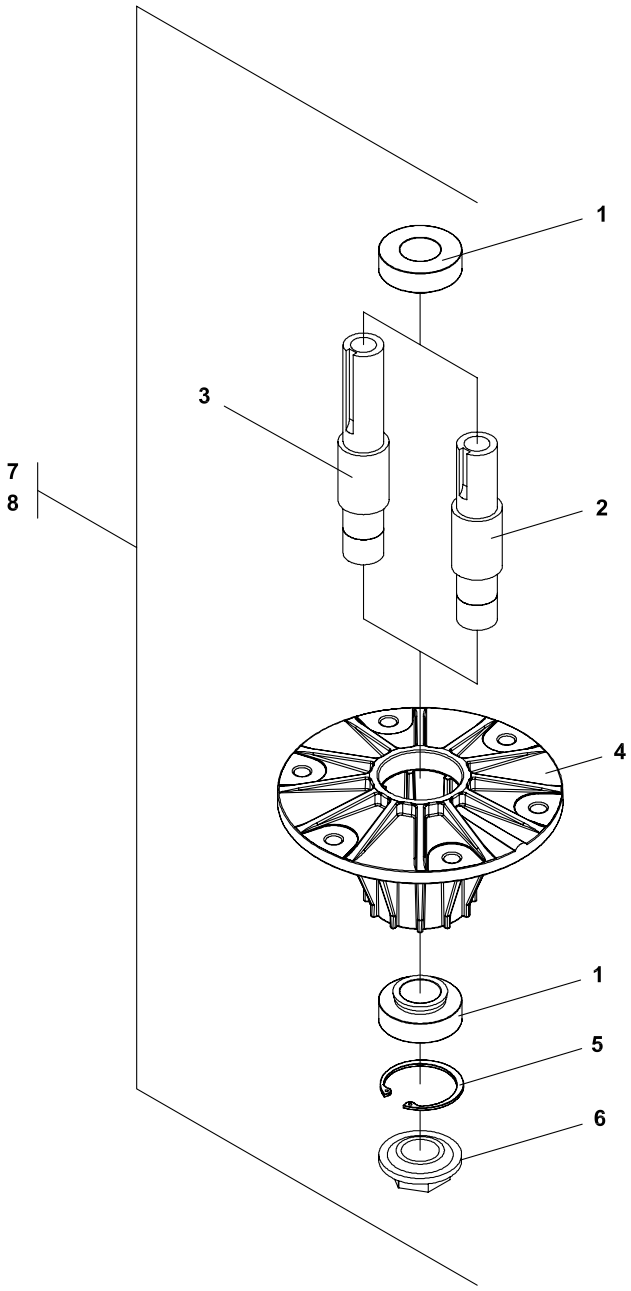
FIGURE 16

ITEM	PART NO.	DESCRIPTION	QTY
	4115465	ASSY-CASTER 9IN EC	2
	(INCLUDES ITEMS 1-3, 7-11 & 13 QTYs LISTED)		
	(NOTE 2 ASSYS REQUIRED PER MACHINE)		
16-1	64173-04	QUICK PIN	1
16-2	64163-07	1-1/32X1-3/4X1/4 WASH	1
16-3	64163-22	1-1/32X1-3/4X1/2 WASHR	7
16-4	4129801	BUSHING-FLANGED	2
16-5	2306029	S CASTER SUPPORT	1
	(INCLUDES ITEMS 4 & 6, QTYs LISTED)		
16-6	85010N	ZERK GREASE FITTING	1
16-7	64163-84	WSHR-1.015 X 1.75 X .125	1
16-8	2721484.7	WLDMT-CASTER YOKE	1
16-9	64229-05	LOCKNUT-NYLON 1/2-13	1
16-10	64123-166	BLT-HEX 1/2-13X5-1/2	1
	OPTIONAL FLAT PROOF WHEEL & TIRE		
16-11	4114430	ASSY-WHEEL 9" CAREFREE	1
	(WITH 2.75 DIA. BOLT CIRCLE)		
	(INCLUDES ITEMS 12-18, 21 & 22)		
	(WITH 2.81 DIA. BOLT CIRCLE)		
	(INCLUDES ITEMS 12-16 & 19-22)		
16-12	64141-1	NUT-WLF 5/16-24	4
16-13	2722230-04	SPANNER	1
16-14	64123-01	BLT-HEX 5/16-24X3/4	4
16-15	2722682	BEARING-9" WHEEL	2
16-16	2722591	SPACER-3/4 INCH BRG	2
16-17	2720645	S WHEEL HALF	2
16-18	2722680	HUB-9"WHEEL W/BEARINGS	1
16-19	4132615	S-WHEEL HALF	2
16-20	4132616	ASSY-HUB W/BEARINGS	1
16-21*	38505	S TUBE-9x3.50-4	1
16-22	4114430-01	S-TIRE 9 FLATFREE	1

*** NOT ILLUSTRATED**

ITEM	PART NO.	DESCRIPTION	QTY

FIGURE 17



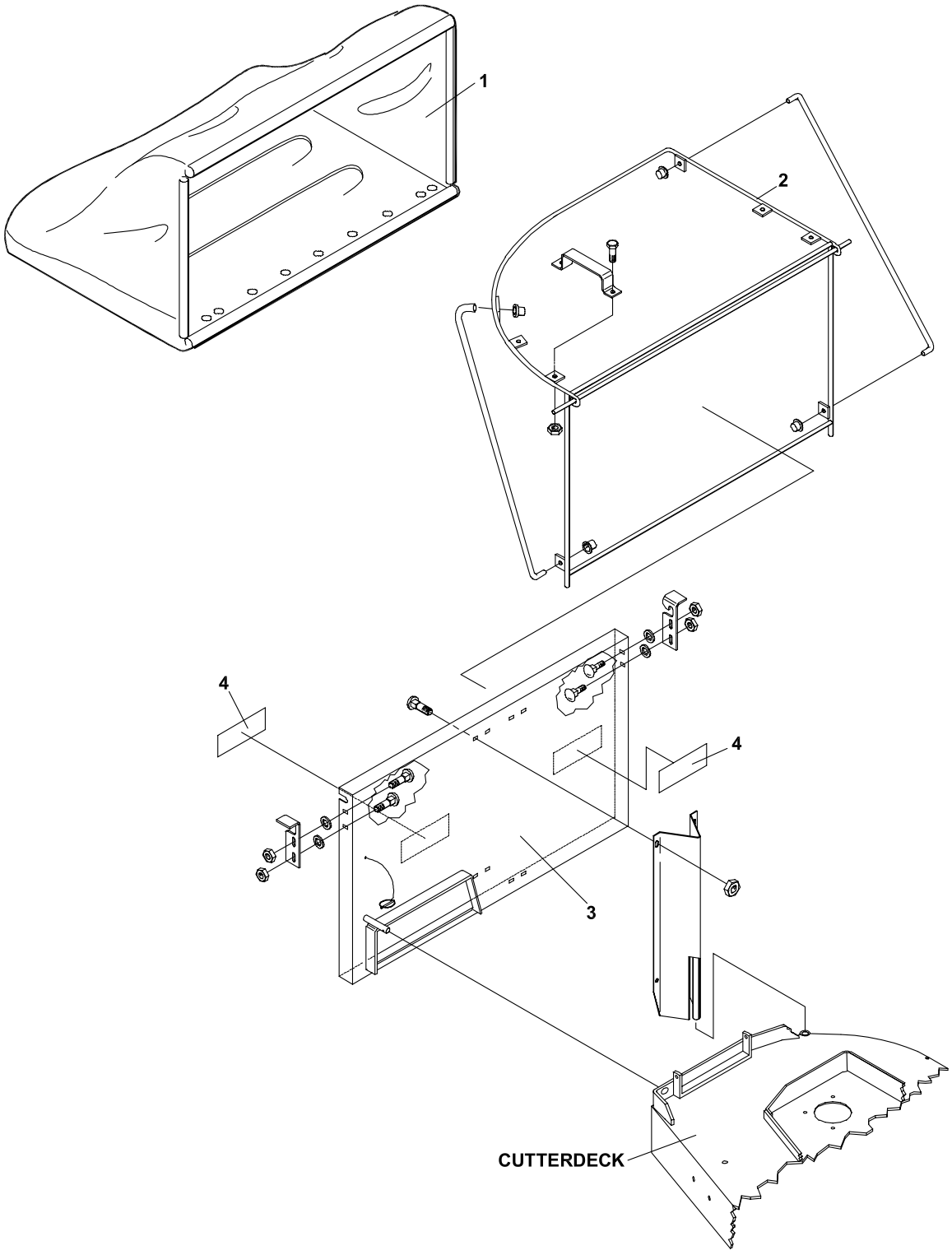
SPINDLE ASSEMBLY

FIGURE 17

ITEM	PART NO.	DESCRIPTION	QTY
17-1	38348-01	BEARING-SPINDLE SEALED	2
17-2	33179-02	SPINDLE-SHORT	1
	(USED IN ITEM 8)		
17-3	33179-01	SPINDLE-LONG	1
	(USED IN ITEM 7)		
17-4	2721096	HOUSING-SPINDLE 6 HOLE	1
17-5	64144-38	SNAP-RING	1
17-6	38315	NUT-SPINDLE	1
17-7	2721097	ASSY-SPINDLE LONG	1
	(INCLUDES ITEMS 1, 3, 4-6)		
17-8	2721323	ASSY-SPINDLE SHORT	1
	(INCLUDES ITEMS 1, 2, 4-6)		

OPTIONAL GRASSCATCHER (970319)

FIGURE 18



OPTIONAL GRASSCATCHER (970319)

FIGURE18

ITEM	PART NO.	DESCRIPTION	QTY
18-1	4135876	BAG, 3.75 BU CATCHR	1
18-2	4135875	FRM-ROD 3.75 BU CATCHR	1
18-3	4135874	PLT-BACK 3.75 BU CATCHR	1
18-4	2000677	LABEL-DANGER/WARNING	2

ITEM	PART NO.	DESCRIPTION	QTY

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BOB-CAT BUNTON RYAN STEINER

CGC
Commercial Grounds Care, Inc.